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ABSTRACT

The exemplary high school dropout prevention programs funded by the federal Vocational Education Cooperative Demonstration Program that are profiled in this document reveal several elements necessary for success in an enhanced vocational education program: (1) highly qualified and emotionally stable staff; (2) curriculum and instruction that emphasize the application of learning to real situations in students' everyday lives; (3) involvement of all parts of the community in program design and operation; (4) operation that is dictated by the needs of students and the local community; (5) special consideration given to those with language deficiencies, learning disabilities, emotional handicaps, substance abuse problems, low motivation and self-esteem, and low academic achievement; (6) a clear vision of the importance of vocational education from policy makers and administrators; and (7) local school staff control of the day-to-day operation. Among implementation recommendations are the following: (1) do a thorough needs assessment of the entire district; (2) design a comprehensive program; (3) build in program evaluation from the beginning; (4) provide adequate time for planning and implementation of the program; (5) conduct adequate awareness and publicity activities; (6) use participatory management; and (7) implement those program components that are already well-developed first and develop incomplete or missing components later. Twenty-two references are listed. (CML)

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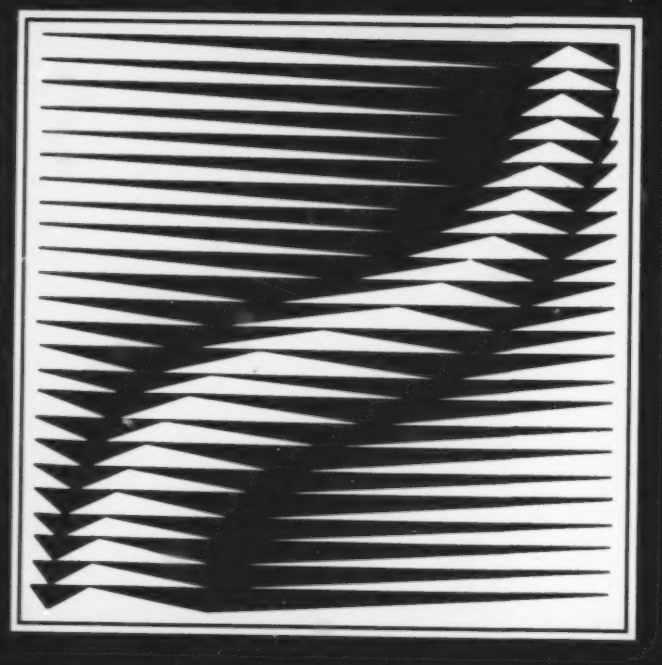

Vocational Education for the 21st Century

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The National Dropout Prevention Center is a partnership between an organization of concerned leaders—representing business, educational, and policy interests and Clemson University—created to reduce America's dropout rate and meet the needs of youth in at-risk situations by shaping school environments to ensure that all youth receive the quality education to which they are entitled. The Center collects, analyzes, and disseminates information about dropout prevention policies and practices; and provides technical assistance to develop, demonstrate, and maintain dropout prevention programs.

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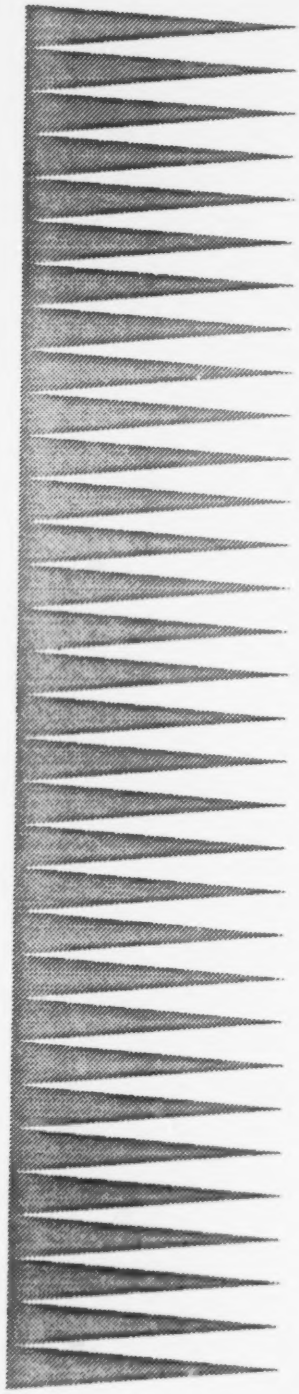
Vocational Education for the 21st Century



John V. "Dick" Hamby
September 1992

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UNITED STATES DEPARTMENT OF EDUCATION

THE SECRETARY

Message from the Secretary

When President Bush announced AMERICA 2000, his strategy to reach the six National Education Goals, he said, "Education has always meant opportunity. Today, education determines not just which students will succeed, but also which nations will thrive in a world united in pursuit of freedom in enterprise." Goal two of the national goals is to reach a ninety-percent high school graduation rate by the year 2000. For every percentage point we move toward, and beyond, that goal, we improve the opportunities for tens of thousands of young Americans.

Dropout prevention and a concurrent commitment to strengthen vocational education programs must be a priority across the American secondary education spectrum if our nation is to meet the challenges of the 21st century and if all our citizens are to meet their own personal goals.

There is no doubt that America has been a leader in technology, a leader in product development, a leader in manufacturing, and a leader in commerce. But the ability of our nation to maintain its leadership in the global marketplace hinges on an educated workforce and a long-term commitment to transform vocational education.

Vocational Education for the 21st Century encourages a return to the traditional "can do" values that established our system of education as the most dynamic, flexible, and responsive to national and personal needs in the world. As just one example, the report emphasizes the value of community involvement in vocational education, reflecting the idea that it takes an entire community to educate one child.

At the same time, the report recommends breaking the mold of how vocational education curriculum has been designed and adopted by looking to innovative curricula and programs as models for success.

Reinventing vocational education by building on bold ideas presents us with a great opportunity to show the world that America has not lost its edge, and that our unique capacity to succeed when challenged is undiminished. *Vocational Education for the 21st Century* offers a valuable perspective on the state of vocational education in America, and its recommendations offer hope for a better future for millions of young Americans.

Lamar Alexander

Lamar Alexander

400 MARYLAND AVE., S.W. WASHINGTON, D.C. 20202-0100

Foreword

In 1989, the Office of Vocational and Adult Education began a program under the Vocational Education Cooperative Demonstration Program (Dropout Prevention). Its purpose was to fund proven, exemplary dropout projects across the country and demonstrate vocational education's role in dropout prevention. This report profiles those very successful projects and further reinforces the critical role vocational education is playing to achieve the National Education Goals.

The projects profiled in *Vocational Education for the 21st Century* have proven to be effective for the students involved in them and models for others to emulate. The report describes the models, and also highlights commonalities, lessons learned, and successful strategies. One theme dominates the projects: all are customer-driven, concerned with "how do we make the school system fit the needs of our children" not, "how do we make these kids fit the system."

Understanding and addressing the diversity of our students and providing them with a variety of learning opportunities as they move from school into the world of work has always been a primary concern to those of us in vocational education. Principles such as applied academics (learning in context), curriculum integration, and guidance and counseling—all part of the projects' overwhelming success—are central to vocational education's history of preparing and graduating competent, well-rounded individuals for the work force. These ideas become ever more important as we move our workers into a marketplace requiring more advanced levels of communication, math proficiency, and problem-solving skills.

These projects show vocational education addressing a pressing need—providing potential dropouts with the opportunity to get good jobs, additional education, and lead satisfying lives. The projects also offer a solution based most importantly on community collaboration, staff commitment and development, counseling and guidance, and parental and family involvement.

While an evaluation of these models is still being conducted, preliminary signs are very positive. In some sites, a 90% retention and graduation rate is being reported. Full evaluation of the program will become available in early 1993. I want to thank the Cooperative Demonstration Dropout Prevention Project at the National Dropout Prevention Center at Clemson University for doing such a good job.

Vocational education will not resolve all the causes of our dropout problem. It is, however, a step in the right direction. There is much research today on educational reform, on the integration of vocational and academic learning, and on school-to-work programs. This report describes these initiatives and others already in place, already working. Our hope is that readers will implement these programs in their communities as dropout prevention strategies.

Sincerely,

Betsy Brand

Betsy Brand, Assistant Secretary
Vocational and Adult Education

Preface

As beneficial as vocational education may be for all students, its potential for at-risk students requires further study and validation. This was the rationale behind the Office of Vocational and Adult Education's decision to initiate the Vocational Education Cooperative Demonstration Project. Ten projects were selected in 1989 to supply experiential data that clearly demonstrated vocational education's role in meeting the needs of at-risk students.

This publication is about improving opportunities for students who are enmeshed in personal, family, school, or community problems that place them at risk. It examines the ten demonstration projects, each with its unique goals and objectives. The projects are administered in entirely different school settings and are spread out across the regions of the United States.

Initial information was gathered by surveys and telephone interviews, then confirmed by site visits and observations. The intention was to look beyond each project and to examine all school and community factors in order to determine the real strengths of vocational education in meeting the needs of its consumers. Concerted efforts were made to consider the potential influence and role that vocational education could play in restructuring the total schooling process in the local community.

Although data collection was concentrated during the third year, the information gathered does reflect the entire three-year demonstration. Experiential data from each of the projects is combined and filtered through a thorough review of the literature to validate that vocational education can offer programs of promise to students in need.

Practitioners, researchers, state and local policymakers are barraged by research and prescriptions on how to best serve students at risk. *Vocational Education for the 21st Century* was prepared to offer a point of view on how vocational education can contribute to the lives of these students as well as the economic health of their communities.

The message is encouraging and reverberates through each one of the ten projects. Leaders in vocational education have been instrumental in developing comprehensive dropout prevention programs in their schools and in their communities. These leaders have contributed to the restructuring process and should continue to take the lead in planning and implementing additional programs for students in at-risk situations.

Acknowledgements

Vocational Education for the 21st Century was written by John V. "Dick" Hamby, former assistant director (now retired) of the National Dropout Prevention Center. Dr. Hamby served as initial director of one of the ten projects. Those rich experiences combined with his spirited research and investigative skills are the foundation of this publication. Yet, this report would not be possible without the assistance of many others. We are indebted for the time, effort, and interest of the staff from each of the projects. They are: Mary Jo Bateman, Marilyn Raby, Don Hardesty, Bob Cullison, Celia Meyers, Karl Behringer, Peggy Walters, Annette Zylinski, Neil Maas, Louis Holleman, Kappy Carter, Gene Beaudoin, Jerry Bodine, Stanley Waldon, Delores Norman, Adrienne Sims, Stephen Jambor, Kelvin Webster, Kast Tallmadge, and Becky Hayward.

Kate Holmberg, project monitor, Office of Vocational and Adult Education, has been a constant source of guidance and encouragement. She deserves our special thanks. Linda Shirley of the National Dropout Prevention Center and project coordinator of the Lifelong Options Program not only provided information, but acted as one of the many reviewers who helped shape this publication. Thanks go, too, to Lib Crockett for her talents in designing and preparing the format.

Jay Smink, Executive Director
National Dropout Prevention Center

Executive Summary

PRESSURES FOR CHANGE IN EDUCATION

The public school system in the United States is under tremendous pressure to improve the quality of education for all students, especially those from diverse backgrounds who do not have much success with traditional approaches and who are at risk of dropping out before graduation. These pressures for change can be traced to several evolving processes and recent events.

First, the world of work will see a continued shift from big industry to information and service work where technology will play a more important role. New jobs will be characterized by a heavy reliance on educated workers with problem-solving and communicating skills who can help maintain our lead in high-tech industries. Very few jobs will be created for those who cannot read, follow directions, and use mathematics.

Second, the next decade will see many changes in the nature of the work force. The pool of workers will be smaller, older, and more diverse, with women, minorities, and immigrants comprising the majority of new workers. This relatively smaller, more diverse labor pool, coupled with the increasing need for more highly-educated workers, will put an exceptionally heavy burden on the educational system in the United States as we move toward the 21st century. More children entering school will be poor, minority, non-English speaking, born to teenage mothers, living in a large city with a single parent who works, exposed to drugs or physical abuse, and with minimal early childhood education.

Third, several events of national significance have added to the pressures for change in public education: passage by Congress of the Carl D. Perkins Vocational and Applied Technology Education Act Amendments of 1990; publication of *America's Choice: High Skills or Low Wages!*, the report of The Commission on the Skills of the American Workforce; adoption of *America 2000: An Education Strategy* by President Bush and the governors; and publication of *What Work Requires of Schools: A SCANS Report for America 2000* by the Secretary of Labor's Commission on Achieving Necessary Skills. The Perkins Amendments mandate some important changes for vocational education, while *America's Choice: High Skills or Low Wages!*, *America 2000: An Education Strategy* and the SCANS Report reinforce these changes and put them into the context of a national vision for the 21st century.

CHALLENGE FOR VOCATIONAL EDUCATION

No aspect of schooling feels these pressures more than vocational education. Amidst falling enrollments, pressures for academic reform, greater emphasis on college attendance, and a somewhat "tarnished" image, vocational education is at a crossroads. Simply stated, what has worked in the past will not work in the future. Either vocational education must change or cease to exist as a viable component of public education.

Ironically, this is the time when our nation's economy has the greatest need for what vocational education has to offer—at least the kind of vocational education that is helping students with diverse backgrounds, learning problems, personal needs, career aspirations, and home conditions. With a history of solving problems in the real world, vocational educators are in a unique position to lead education reform into the 21st century.

A large body of research shows that vocational education provides the kinds of educational experiences needed by a diverse future work force, especially those who traditionally have not had much success in school. For example, at-risk students who earn more vocational credits in an occupational specialty (rather than in early exploratory or work-study programs) are more likely to graduate from high school. Disadvantaged minority students who took at least a

four-credit vocational education program and found employment related to that program gained important labor market advantages. Also, research by cognitive psychologists has shown that students have a better understanding of abstractions and theory when taught in a practical context and specific situations where they apply. Finally, findings from the growing movement to integrate academic and vocational education reveal that this process will allow for improvement of occupational skills and, at the same time, provide a means to strengthen students' basic and higher order thinking skills. This kind of hands-on, real-life learning is the essence of good vocational education for the future.

RISING TO THE CHALLENGE

Although the research findings are encouraging, they do not represent an organized response to the challenges facing vocational education. We need a comprehensive, enhanced vocational education program to guide our efforts. Fortunately, we don't have to start from scratch. Many farsighted educators have been busy for some time developing and implementing very effective, innovative programs and strategies to deal with the pressures and problems in our society.

One of the most successful approaches is an enhanced vocational education program that has evolved from the findings of a three-year project funded in ten demonstration sites throughout the United States by the Office of Vocational and Adult Education, U.S. Department of Education. This activity forms the basis of *Vocational Education for the 21st Century* which describes how sites have integrated the best of vocational education with a variety of successful policies, practices, and strategies to reach students who have not graduated from school, who might not graduate, and who might graduate with too few effective skills to sustain them in a competitive and changing job market.

Vocational Education for the 21st Century describes the curriculum and educational support system derived from the consolidation of demonstration site experiences. Included are practical examples to emphasize that schools can incorporate and implement this program regardless of location, size, organization, or student population.

The core curriculum elements include applied academics, vocational-technical education, employability skills, and life-coping skills. The educational support system includes at a minimum consideration of a wide variety of instructional strategies, counseling, student management and discipline, community collaboration, parent involvement, staff selection and development, flexible scheduling, summer school, small class size, and transportation. Organizational arrangements at the demonstration site projects include alternative schools, schools-within-a-school, and transitional support systems located in vocational-technical centers, community career centers, or other community sites.

ELEMENTS OF SUCCESS

Findings from the demonstration projects reveal that several elements are necessary for success in an enhanced vocational education program regardless of the type of student involved or location of the program. These elements can serve as guidelines for school boards and administrators who want to implement an enhanced vocational education program in their districts.

- People make the program. A caring, dedicated, competent staff is the key to success with diverse student groups. Therefore, only the most highly-qualified and emotionally-stable people should be assigned to work in programs for at-risk students. However, even the best staff will need adequate and continued training, professional development, and personal support to operate an enhanced vocational education program.

- The program must be excitingly realistic in its approach. Many students are turned off by school because they see no relationship between what they study and life outside of school. Students respond positively to curriculum and instruction that emphasize the application of learning to real situations in their everyday lives.

- The program must be a community affair. Every conceivable school and community resource must be brought to bear on the education of diverse student populations. School board members, administrators, teachers, counselors, business leaders, community leaders, human service agency personnel, parents, students, college faculty, state department staff, and others must be authentically involved in program design and operation.

- The program can operate in a variety of settings and locations. No one organizational pattern is right for every setting. The way program elements are arranged and operated should be dictated by the needs of students and the local community.

- The program must be comprehensive for a wide range of diverse student needs. Students are at risk of school failure for a multitude of reasons. Therefore, single-dimension programs will not work for everyone. While an enhanced vocational education program should be appropriate for any student in the school district, special consideration must be given to those with language deficiencies, learning disabilities, emotional handicaps, substance abuse problems, low motivation and self-esteem, low academic achievement, and other factors that make them different from the "typical" student in the mainstream of school. Furthermore, every student's curriculum plan should include all four curriculum components and all appropriate supporting elements so as to avoid fragmented and incomplete programs.

- Strong district commitment to provide necessary resources is required. District policymakers and administrators must demonstrate by their actions to district staff and the community that they are dedicated to innovation and quality in education. They can manifest this commitment and support in several ways: First, by projecting a clear vision of the importance of an enhanced vocational education program to students, parents, community, and district staff; second, by making enhanced vocational education a basic part of the regular district program with funding for adequate facilities, staff, and the necessary educational support system; and third, by choosing the most competent and caring people to staff the program.

- Program autonomy and participatory management are vital. While district leaders should set high standards and expect quality outcomes, day-to-day operations of the program must be left in the hands of local school staff. A system for sharing information about the program and making decisions with input from all involved parties must be cooperatively developed. Program rules, regulations, guidelines, and procedures should be set in clay and not in cement. Change should be easily and quickly achieved when the need arises. This includes day-by-day interactions between students and staff concerning curriculum and methods as well as management and operation of the program.

A NEW BREED OF VOCATIONAL EDUCATION

Vocational Education for the 21st Century advocates a new breed of vocational education—dynamic, vibrant, exciting. It is vocational education that has expanded its vision to actively seek change—in its curriculum, in its methods, and in the students it serves. It is vocational education that has heard the cries for reform and felt the pressures of a changing world economy. It is vocational education that not only has moved into the mainstream of education; it is on the cutting edge in serving those students who traditionally have been turned off by education and alienated from school. This is vocational education at its best. This is vocational education for the 21st century.

Vocational Education at a Crossroads

VOICES FROM THE FUTURE

"My name is Melanie."

Two years ago I was 17 years old, in 9th grade, and two-and-a-half years behind my age mates. All I wanted was to drop out of school, get married, and let my husband support me. My teachers and my boss on my after-school job said I had a bad attitude. One of my teachers bugged me to enroll in an Office Technology class and a special summer course in employability skills and business communication. I don't really know what happened, but my whole life started to change. I had a better attitude about myself and started to like school and work. I enrolled in Career Related English and even volunteered to tutor an at-risk second grader! I'm getting a lot of computer skills. When I graduate, I know I'll be able to get a good job and maybe even go on to college.

"I'm Charles."

I drifted through most of high school, never thinking about graduation or a diploma. I liked my vocational-technical classes and doing things with my hands. But I was failing most of my academic courses and felt embarrassed to be older than most kids in my grade. Then I found out about a community-based education program where I could earn English credit working after school with the manager of the personnel department of a nearby military base. I'm sort of shy and quiet but she was really patient. She taught me how to answer the phone and to say "yes" instead of "yea." I knew something about computers, and she helped me learn about word processing and spread sheets. I liked my job so much I was afraid to tell anyone because I was afraid they would take it away from me. I enrolled in a summer course in Office Technology. In the fall I continued my vocational-technical courses and again earned academic credit working with my sponsor keeping records, planning budgets, and learning more about the computer. When I graduated, I had great computer skills. I'm now enrolled in computer studies at the local community college.

"My name is Raymundo."

I came to this country from Mexico with my older brother in the back of a refrigerated truck when I was 14 years old. I wanted to leave the hard times and find work in the United States. My goal was to send money back to my family, but things didn't work out just right. I had to work and my brother made me attend school at the same time. At first I was confused. The load was heavy and I found studying difficult. Fortunately, one of my teachers would not give up on me. She referred me to a special program in my school. She thought it would put me in a better position to get my diploma. In the special program, I could study at my own pace. I would also be required to take vocational training. In regular high school it doesn't work that way. Now, I'm completing high school courses and getting vocational skills. The special program also placed me in a different job. It's in the vocation I'm studying—medical assistant. Do I feel important! I look like a doctor. I have a white uniform and shoes that the special program bought for me. They also paid for my books. I am studying on a flexible schedule. At last I'm happy. I'm getting skills and making good money for my family.

"My name is Ra."

I am a Cambodian immigrant. I was 16 years old when I came to America. I could speak no English. I was not even very good in my own language. I had a hard time speaking to others or understanding them. School was very difficult. I had a hard time keeping my mind on my lessons. I could not forget about the killing and hunger and fear we all felt in my country. I did not even want to be in school. Graduation was not even in my mind. Then I got into a special program. I got classes in vocational education, and they taught me English, independent living, and job readiness. Now I am happy in school and am on track to receive a diploma. I have an afternoon co-op job doing diesel truck repairs. I hope to graduate from high school and use my job experience for entrance into college and a career in engine repairs.

What do all these young people have in common? They have been successful in vocational education programs specially designed for students with diverse backgrounds, learning problems, personal needs, career aspirations, and home conditions.

It is a new kind of vocational education—dynamic, vibrant, exciting. It is vocational education that has expanded its vision to actively seek change—in its curriculum, in its methods, and in the students it serves. It is vocational education that has heard the cries for reform and felt the pressures of a changing world economy. It is vocational education that not only has moved into the mainstream of education; it is on the cutting edge in serving those students who traditionally have been turned off by education and alienated from school. This is vocational education at its best. This is vocational education for the 21st century.

THAT WAS THEN, THIS IS NOW: PRESSURES FOR CHANGE

Why all this talk about a "new breed" of vocational education? Why does vocational education need to change? Because vocational education is at a crossroads. Amidst falling enrollments, pressures for academic reform, greater emphasis on college attendance, and a somewhat "tarnished" image, some educators and policymakers are questioning the need for vocational education in America's high schools (Strickland et al., 1990; Gray, 1991). Vocational education is in need of an overhaul (Rosenstock, 1991), and may be fighting a losing battle unless it can be reformed to better address changing student aspirations and needs and new demands from the world of work (Gray, 1991). The future of vocational education is at stake (Wirt, 1991); the time for hard decisions is at hand (Gray, 1991). Simply stated, what has worked in the past will not work in the future. Either vocational education must change or cease to exist as a viable component of public education.

Ironically, this is also the time when our nation's economy has the greatest need for what vocational education has to offer—at least the kind of vocational education that is helping students like Melanie, Charles, Raymundo, and Ra.

How did vocational education reach this point? Pressures for change can be traced to the following evolving processes and recent events: the world of work, the nature of workers, and national policies and priorities.

Changes in the World of Work

As we approach the 21st century, the world of work will be characterized more and more by a continued shift from big industry to information and service work. Manufacturing will comprise a much smaller share of the U.S. economy (U.S. Department of Labor, 1987), while service-producing industries will add more than 20 million new jobs by the year 2000 (Johnston, 1987). Occupational groups projected to experience the fastest growth during this period are technicians, service workers, professional workers, salesworkers, and executive and managerial employees (U.S. Department of Labor, 1987). Technology will play a more important role in almost all jobs (Hay and Roberts, 1989).

The major problem we face in the transition from an industrial to a high-tech economy is not fewer jobs, but rather, a difference in the kinds of jobs available and the skills necessary to do them. The major characteristic of new jobs will be the heavy reliance on educated workers. As the world becomes more economically interdependent, our nation will require more highly skilled specialists to maintain our lead in high-tech industries (Vaughn, 1991).

More than half of all the new jobs created by 2000 will require some education beyond high school. Very few jobs will be created for those who cannot read, follow directions, and use mathematics (Johnston, 1987). All jobs will require more problem-solving and communicating skills as well as basic skills (National Alliance of Business, 1986).

Changes in the Work Force

During the next decade, both the population and the work force in the United States will grow more slowly than at any time since the 1930s. The average age of the population and the work force will rise, and the pool of young workers entering the labor force will shrink. More women will enter the work force, comprising almost two-thirds of all new entrants. Minorities will be a larger share of the new entrants into the labor force, making up about 30% of the new entrants, twice their current share. Immigrants will represent the largest share of the increase in the work force since the first World War. An estimated 600,000 legal and illegal immigrants are projected to enter the United States annually throughout the balance of this century (Johnston, 1987).

This relatively smaller, more diverse labor pool, coupled with the increasing need for more highly-educated workers, will put a particularly heavy burden on the educational system in the United States as we move toward the 21st century. More children entering school will be poor, minority, non-English speaking, born to a teenage mother, living in a large city with a single parent who works, exposed to drugs or physical abuse, and with little early childhood education (Hodgkinson, 1985).

National Priorities and Policies

Four events of national significance have brought vocational education to center stage of reform in public education—passage by Congress of the Carl D. Perkins Vocational and Applied Technology Education Act Amendments of 1990 (Jennings, 1991; Wilcox, 1991; Wirt, 1991); publication of *America's Choice: High Skills or Low Wages!*, the report of The Commission on the Skills of the American Workforce (National Center on Education and the Economy, 1990); adoption of *America 2000: An Education Strategy* (U.S. Department of Education, 1991) by President Bush and the governors; and publication of *What Work Requires of Schools: A SCANS Report for America 2000* (U.S. Department of Labor, 1991) by the Secretary of Labor's Commission on Achieving Necessary Skills. The Perkins Amendments mandate some important changes for vocational education, while *America's Choice: High Skills or Low Wages!*, *America 2000: An Education Strategy*, and the SCANS Report reinforce these changes and put them into the context of a national vision for the 21st century.

Provisions of the Perkins Act Amendments are particularly relevant to the kind of enhanced vocational education program our nation needs. They include:

- Calling for the integration of academic and vocational education in an effort to link thought with action;
- Requiring that federal funds be directed to districts with the highest concentrations of poor families and where the needs for restructuring and improvement are the greatest;
- Emphasizing outcome measures as the basis of funding; and
- Mandating more local authority in program decision making.

Several recommendations contained in *America's Choice: High Skills or Low Wages!* are particularly germane to development of an enhanced vocational education program:

- A new educational performance standard should be set for all students, to be met by age 16. This standard should be established nationally and benchmarked to the highest in the world.
- The states should take responsibility for assuring that virtually all students achieve the Certificate of Initial Mastery. Through... local Employment and Training Boards, states, with federal assistance, should create and fund alternative learning environments for those who cannot attain the Certificate of Initial Mastery in regular schools. [The] Boards should... organize and oversee the new school-to-work transition programs and training systems....
- A comprehensive system of Technical and Professional Certificates and associate degrees should be created for the majority of our students and adult workers who do not pursue a baccalaureate degree. (pp. 5-8) One example of the impact of *America's Choice* is Oregon's Educational Act for the 21st Century passed in 1991 (Oregon Department of Education). This legislation calls for a Certificate of Initial Mastery and learning centers to help dropouts earn these certificates as well as other innovative concepts to improve the education and productivity of the future work force.

Four of the education goals set forth in *America 2000: An Education Strategy* provide challenges and guidance to an enhanced vocational education program. By the year 2000:

- The high school graduation rate will increase to at least 90 percent.
- American students will leave grades four, eight, and twelve having demonstrated competency in challenging subject matter including English, mathematics, science, history, and geography; and every school in America will ensure that all students learn to use their minds well, so they may be prepared for responsible citizenship, further learning, and productive employment in our modern economy.
- U. S. students will be first in the world in science and mathematics achievement.
- Every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise a disciplined environment conducive to learning. (p. 19)

The SCANS Report builds upon the goals of *America 2000: An Education Strategy*, but is more specific about what students should know and be able to do upon graduation from high school. The SCANS Report proposes that all students master the following five competencies necessary for "workplace know-how" in any field or career:

- Identifying, organizing, planning, and allocating resources;
- Working with others;
- Acquiring and using information;
- Understanding complex interrelationships;
- Working with a variety of technologies. (p. xvii)

These competencies are complemented and supported by the following three-part foundation:

- Basic Skills—Reads, writes, performs arithmetic and mathematical operations, listens and speaks;

- ▲ Thinking Skills—Thinks creatively, makes decisions, solves problems, visualizes, knows how to learn, and reasons;
- ▲ Personal Qualities—Displays responsibility, self-esteem, sociability, self-management, and integrity and honesty. (p. xviii)

TURNING PROBLEMS INTO "WONDERFUL" OPPORTUNITIES

Congress has mandated educational change, study committees strongly recommend such change, the economy demands change, and students need change. These pressures will require educators to expand their vision, take a leap of faith, and, in the words of Dale Mann (1986), view the challenges for change as "Insoluble problems masquerading as wonderful opportunities" (p. 307).

Vocational education is in a unique position to take advantage of these "opportunities" and lead education reform into the 21st century. With a history of solving problems in the real world, vocational educators are calling forth all their creative talents as they attempt to deal with these pressures, and so they try to meet the needs of those students who historically have not done well in regular high school programs, make up the highest proportions of dropouts, and have the highest unemployment rates. Vocational education will involve a greater proportion of these disadvantaged and displaced young people in mainstream education and may serve as their entry into higher education. Whether or not these students go to college—and estimates are that three out of four employees in the year 2000 will not have college degrees—vocational education will be their key to job success and a higher standard of living (Vaughn, 1991).

Educators can gain comfort and confidence from the large body of research that shows that vocational education provides the kinds of educational experiences needed by this diverse future work force. Studies of the relationships between student characteristics and effective teaching methods have underscored the value of vocational education concepts and strategies in helping those who traditionally have not had much success in school.

For example, at-risk students who earn more vocational credits in an occupational specialty (rather than in early exploratory or work-study programs) are more likely to graduate from high school (Weber, 1987). Disadvantaged minority students who took at least a four-credit vocational education program and found employment related to that program gained important labor market advantages (Gray, 1991). Also, research by cognitive psychologists has shown that students have a better understanding of abstractions and theory when taught in a practical context and specific situations where they apply (Wirt, 1991). Finally, findings from the growing movement to integrate academic and vocational education reveal that this process will allow for improvement of occupational skills and, at the same time, provide a means to strengthen students' basic and higher order thinking skills (William T. Grant Foundation, 1988). This kind of hands-on, real-life learning is the essence of good vocational education for the future.

DEVELOPING AN ENHANCED VOCATIONAL EDUCATION PROGRAM

Although the research findings are encouraging, they do not represent an organized response to the challenges facing vocational education. We need a comprehensive enhanced

vocational education program to guide our efforts. Fortunately, we don't have to start from scratch.

Farsighted educators have been busy for some time developing and implementing very effective, innovative programs and strategies to deal with these pressures and problems in our society. They have integrated the best of vocational education with a variety of successful policies, practices, and strategies to reach students who have not graduated from school, those who might not graduate, and those who might graduate with too few effective skills to sustain them in a competitive and changing job market. One such activity forms the basis of *Vocational Education for the 21st Century.*

In 1989, the Office of Vocational and Adult Education, Department of Education, funded ten projects across the nation under the Vocational Education Cooperative Demonstration Program (Dropout Prevention). The major goal of this program was to demonstrate vocational

FIGURE 1
DEMONSTRATION SITES

	PROJECT NAME	PROJECT LOCATION
1.	Bilingual Vocational Education	Richmond, Virginia
2.	Business Technology Academies	Redwood City, California
3.	Community Career Centers	Baltimore County, Maryland
4.	Guidance in Retaining Adolescent Dropouts (GRADS)	Cushing, Oklahoma
5.	Lifelong Options Program	
	5a. Y.E.S.	Anne Arundel, Maryland
	5b. C. H. O. P. S.	Broward County, Florida
	5c. O. A. S. I. S.	Oconee County, South Carolina
6.	North Dakota Project COFFEE Vocational Training Program	Bismarck, North Dakota
7.	Preparing At Risk Youth for Employment	Detroit, Michigan
8.	Student Transition and Retention Program (STAR)	Santa Ana, California
9.	Technical Alternative High School	Valhalla, New York
10.	Vocational Mentoring Program	Portland, Oregon

education's role in dropout prevention. Program requirements specified that the projects were to be located in communities with high dropout rates, test a variety of dropout prevention strategies, and be capable of widespread replication. Each project was required to replicate a tested model of dropout prevention or expand a model already in place. Funding was for three years, and each project was evaluated. Figure 1 presents a list of the demonstration projects and their locations.

The initial goal of this program was to test the efficacy of the various models with the intention of disseminating those that worked best. As the projects progressed, however, a new goal began to emerge. Since the number of projects was small, it was possible for project directors to meet together periodically, visit each others' sites, and share their experiences on a regular basis. They discovered two things: (1) Projects were successful because they were sensitive to the needs of local students; (2) No project could meet all the needs of the students it served nor serve all students who needed help.

They found that, while much of what was being done was unique within projects, successful strategies and practices fit into a common framework when viewed across projects. They began to envision a new program that was larger than individual projects—a new structure that would be comprehensive enough to include the best elements of all projects, yet flexible enough to meet the needs of a variety of students. Kelvin Webster, Targeted Services Specialists in the Vocational Mentoring Program in Portland, describes this new vision: "We are trying to save these students at the same time we are preparing them for productive lives. This may be too much to expect of our traditional school programs. Probably the most unique aspect of what we are trying to do is to restructure, change, improve how we provide vocational services to a population of students who previously has not had success accessing these services."

Vocational Education for the 21st Century is an outgrowth of the experiences at the demonstration sites. It is not merely a catalog of the federally-funded demonstration projects. Rather, it is a description of the curriculum and educational support system derived from the consolidation of demonstration project experiences that can serve as the framework for an enhanced, comprehensive, flexible vocational education program. This description will be reinforced by practical examples from projects to emphasize that schools can incorporate and implement these concepts and practices regardless of their location, size, organization, or student population. Profiles of the ten federal demonstration sites and project contacts will also be presented.

▲2 Blueprint for Enhanced Vocational Education

A COMPREHENSIVE CURRICULUM

Findings from demonstration projects showed that a comprehensive curriculum for an enhanced vocational education program requires a balanced mixture of experiences in four areas: academics, vocational education, employability skills, and life-coping skills.

Academics

A comprehensive curriculum includes a strong academic component to give students a solid foundation in basic skills and to equip them with the higher-order levels of thinking and reasoning needed for initial employment or entrance into postsecondary education. The program of studies leads to a diploma or provides training for General Education Development (G. E. D.) or other equivalency certification. Remediation in academic skills and special programs for students with English language deficiencies are available as needed throughout the program.

Findings from the demonstration projects revealed that minimum academic competencies need not differ significantly from what is now required in school. However, the delivery system must be more nontraditional and expectations for vocational education students must provide options for higher education as well as immediate employment. According to Stanley Waldon of Detroit's Preparing At Risk Youth for Employment Program, "It's difficult to bring about the concept of change. We must try hard to bring about the awareness that students in vocational education also go on to college."

Regardless of students' after-graduation goals, they all need to be competent in:

- Communicating (reading, writing, speaking, listening, and speaking as well as computer literacy);
- Computing (mathematics);
- Problem solving (creative thinking, decision making, reasoning, learning how to learn);
- Group living and economic self-sufficiency (history, geography, economics, citizenship, religion, art, music);
- Understanding relationships among groups (interpersonal, intercultural, international);
- Understanding the natural world (science); and
- Maintaining personal wellness (health and physical education).

Vocational Education

Findings from demonstration projects revealed that an enhanced vocational education program has a core set of occupational training activities and experiences. These activities and experiences are very advantageous to a population of students who have struggled or failed in a traditional school setting. Stephen Jambor, psychologist in the Technical Alternative High School in Southern Westchester, describes the benefits in this way: "If dysfunctional behavior is learned, so is successful behavior. The key is to engage students by creating meaningful opportunities to experience competence. Occupational education is the fulcrum by which the students' doors of perception are wedged open and the motivation to achieve is reengaged."

The range of vocational offerings at the various sites depended upon the availability of facilities and equipment, job availability in the service community, student demand, stability of the service population, community traditions and attitudes, and location (rural, suburban, or urban). However, project experiences led to the conclusion that a comprehensive curriculum provides several occupational choices from the eight main areas of vocational education designated by the American Vocational Association: trade and industrial education;

business education; agriculture; home economics; marketing education; technical education; technology education; and health occupations (Association for Supervision and Curriculum Development, 1991).

Other aspects of a comprehensive curriculum are:

- Vocational-technical courses that count in the diploma track and/or lead to certification in an occupational area;
- On-the-job training or simulations; and
- Vocational education preparation and career exploration for middle school or early high school students or for students who are at risk but not ready to enter a full-blown vocational-technical program. This is not a substitute for actual occupational training, but a readiness phase.

Employability Skills Training

Findings from demonstration projects also showed that it is not enough for students to develop technical skills and the cognitive know-how for a particular job. They also need those personal, social, and professional characteristics and habits required to seek, obtain, maintain, advance in, and leave a job and find another. Unfortunately, most students—especially like those educationally or economically disadvantaged ones in the demonstration projects—do not bring these skills with them to school, learn them incidentally in vocational education courses or extracurricular activities, or pick them up once they get a job.

Therefore, the schools must work in concert with employers and business leaders to provide an effective program of employability skills training that includes activities based on general workplace requirements and student needs. In a comprehensive curriculum, there are regularly-scheduled, required, credit-bearing employability skills training activities that are integral parts of the program, not merely electives or add-ons.

The following are just a few of a multitude of specific employability skills:

- Searching for a job;
- Completing a job application;
- Preparing for a job interview;
- Coming to work on time and following schedules;
- Exhibiting initiative, industriousness, and motivation on job;
- Preparing schedules;
- Developing budgets;
- Knowing and comprehending work-related vocabulary;
- Using time, materials, facilities, and space efficiently;
- Assessing skills and distributing work;
- Participating as a team member;
- Teaching others new skills;
- Serving clients efficiently and effectively;
- Exercising leadership; and
- Working with people from diverse backgrounds.

Life-Coping Skills Training

All vocational education programs provide academic courses, occupational training, and some employability skills training. However, enhanced vocational education curriculums also include regularly-scheduled, life-coping skills training designed to help students deal with the personal and social issues of daily living—in school and out, in the present and in the future.

Educational reformers have not given this curriculum component as much attention as the three already discussed. However, findings and experiences at the demonstration projects show that life-coping skills training is an essential ingredient for success in school and on the job. Some specific life-coping skills include:

- ▲ Developing a well-defined personal identity;
- ▲ Identifying and dealing with personal fears;
- ▲ Coping with different feelings and emotions;
- ▲ Making wise choices;
- ▲ Dealing positively with values conflicts;
- ▲ Developing and maintaining positive personal relations with others;
- ▲ Demonstrating effort and perseverance toward goal attainment;
- ▲ Exhibiting self-worth and maintaining a positive view of self;
- ▲ Showing understanding, friendliness, adaptability, empathy, and politeness in group settings;
- ▲ Doing accurate self-assessment, setting personal goals, checking progress, and exhibiting self-control; and
- ▲ Choosing ethical courses of action.

The foundation of an enhanced vocational education program is a comprehensive curriculum of academic and vocational education plus employability and life-coping skills training. It prepares students to make informed occupational choices which should lead to a fulfilling lifetime of work experiences. The goal of this curriculum is lifelong employment through lifelong learning—employability through adaptability. Above all else, it is a curriculum designed to ensure successful living in the real world.

AN EDUCATIONAL SUPPORT SYSTEM

An adequate curriculum is only half the battle in developing an enhanced vocational education program, however. A potentially excellent curriculum must be organized and delivered so that students come into contact with it and maintain that contact for a sufficient period of time. Without this organization and planned delivery system, a program's impact upon students will be seriously impaired.

A strong educational support system must be put in place. Such a support system addresses program location and organization; student recruitment, selection, and orientation; instructional strategies; counseling and guidance; student management and discipline; community collaboration; parental and family involvement; staff selection and development; flexible scheduling; summer school; small class size; transportation; and district commitment and support.

Program Location and Organization

Some readers might be thinking, "We can't offer the kind of curriculum described here. We don't have the facilities. Our physical arrangement is just too restrictive!"

It is true that the physical arrangement in which a school curriculum is offered can make a difference in how students are brought into contact with and are able to succeed in that curriculum. However, as the experiences at the demonstration projects revealed, the range, intensity, and quality of services and the characteristics of the people providing those services were more important to student success than physical arrangements. One reason many at-risk

students do poorly in all configurations of traditional vocational education programs is the lack of a comprehensive curriculum and the educational support services necessary for success in the curriculum, not the physical arrangement and locations of buildings.

A variety of organizational arrangements can be utilized to accommodate an enhanced curriculum. Obviously, some arrangements make it easier than others to provide students with a wide range of services, monitor their progress, and make adjustments when needed. Each arrangement has its own advantages and disadvantages, and a choice of a particular one is determined by consideration of facilities, staff, funding, student population, and other factors.

Some demonstration projects operated transitional support programs within traditional settings to provide the services required by at-risk students for success in achieving a diploma, an equivalency certificate, or a job. Other projects used more nontraditional arrangements—the alternative school and the school-within-a-school.

The following are brief descriptions of these three approaches. More details are provided in project profiles located in Chapter Three.

- **Transitional Support Programs**: A transitional support program can be set up in any location—the home high school, a vocational-technical center, or a separate facility (for example, a business or industry)—to help students graduate, get an equivalency certificate, or get a job. This program provides a multitude of special services to enhance student success in academics, occupational training, job preparation, or personal/social development. Services take place in regular classrooms, labs, shops, special classrooms in school or in the community, or other special arrangements. Services may be scheduled or provided as needed. The following demonstration projects operated transitional support systems: Preparing At Risk Youth for Employment in Detroit, Bilingual Vocational Education in Richmond, Vocational Mentoring Program in Portland, Guidance in Retaining Adolescent Dropouts (GRADS) in Cushing, The Community Career Centers in Baltimore County, Lifelong Options Program (Y. E. S.) in Anne Arundel, and North Dakota Project COFFEE Vocational Training Program.

- **Alternative School**: An alternative school is a facility separate from the home high school and vocational-technical center where students receive academic instruction and other special support services. Ordinarily, they are transported to a vocational-technical center or other facility for occupational training, although they may receive this training at the alternative school if programs are available (for example, if it is located at a community college). The STAR Program at Rancho Santiago Community College and the Lifelong Options Program (O. A. S. I. S.) in Oconee County are examples of alternative schools.

- **School-within-a-School**: A school-within-a-school is just what it sounds like—a smaller school on a high school or vocational-technical center campus where a select group of students have a block schedule for core academic and occupational instruction and usually remain with the same group of teachers for the duration of their program. Students can be mainstreamed for electives and other school activities. They also receive a range of support activities including counseling, job training, and personal/social development not available to students in the larger school setting. Examples of schools-within-a-school are the Business Technology Academies in Redwood City, the Lifelong Options Program (C. H. O. P. S.) in Broward County, and the Technical Alternative High School in Valhalla.

Recruitment, Selection, and Orientation of Students

Vocational educators are finding it necessary to actively recruit more and more students with diverse backgrounds who ordinarily might not choose a vocational education career path. This situation has raised some important issues that must be addressed when developing an enhanced vocational education program.

Some demonstration projects like the Community Career Centers in Baltimore County have open entry-open exit policies for students. However, some others are located in school districts that have standards for admittance to vocational programs that many at-risk students do not meet. Staffs in these projects have worked with district personnel to ensure that traditional standards not exclude needy students and deny them important services. They have discovered that the best way to refute criticisms of a policy that makes exceptions to entrance requirements for needy students is to maintain high exit requirements for these students and provide the kind of instructional support to see that they succeed.

The following steps, although they differ across demonstration projects, provide a basic process for identifying, recruiting, assessing, and prescribing program elements for at-risk students that go beyond the normal enrollment process in most vocational education programs.

Identification

Usually, students are referred or recommended for participation in a program on the basis of stated criteria. Referrals are made by teachers, counselors, students themselves, administrators, other school staff, or parents. Students are often identified by use of a locally-developed screening instrument. However, sometimes a standardized one such as the *Dropout Prediction Scale* (Weber, 1988) is used. Criteria for identifying at-risk students might include the following:

- Irregular attendance;
- One to two years below grade level in achievement;
- Low motivation and disinterest in the regular school program;
- Economically disadvantaged or need for employment;
- Overage for grade (been retained in previous grades);
- Language deficit (including non-English speaking immigrants); and
- History of discipline problems.

Sometimes students are assigned to special programs by administrators as an alternative to suspension or expulsions from school. Unless this is a stated objective for an enhanced vocational education program and unless staff are trained in dealing with this type of student, administrators should avoid using such a program as a "dumping ground" for students who are unwanted in the regular high school. Demonstration project staff discovered that students have greater success if they volunteer for a program and if the program matches their interests and aptitudes.

Recruitment

Recruitment is the step where the school searches for students or responds to referrals. This may be done through meetings, printed materials, and one-on-one interviews. Recruiters explain the program carefully to students, show its advantages and expectations, and begin to determine if there is a fit between the student and the program. Often, parents are involved at this point. Celia Meyers, Project Director of the GRADS Program in Cushing, emphasizes the importance of recruitment in an enhanced vocational education program: "It is likely that high-risk students require more than the availability of services; they must be actively encouraged to attend."

Assessment

Assessment of a student's academic and vocational achievement levels, aptitudes, and interests may take place prior to referral, during recruitment, and afterwards in the placement process. Assessment is essential for designing programs, placing the student in learning situations, and selecting support services. This initial assessment is also helpful as a baseline for continued evaluation of student progress through the program. Information may come from a student's school records and from tests and assessment instruments administered just for placement in this program. A variety of information should be collected using a variety of instruments, followed by a one-on-one interview by a trained professional. Several demonstration projects use APTICOM as the basic vocational and academic assessment tool.

Placement

The placement decision is based on answers to two questions. First, does the program match the student's needs so he or she has a good chance to be successful? Once this decision is made, project staff can inform students and their parents of the decision. This is often done in an interview with students and parents. Sometimes students are required to sign a contract. Second, does the student match the program's offerings? Often, special programs become dumping grounds for students not wanted in regular classrooms regardless of whether or not the programs are equipped to deal with them. At other times, students are placed in dropout prevention programs on the basis of a checklist or scale when in reality they are doing quite well in school. They do not need what the programs are providing and take up space that could better be used by more needy students. The key to proper placement is accurate assessment of student interests, abilities, and motivational level and an effective match to the program's goals and activities.

Orientation

Once students are accepted into the program, they (and their parents in many cases) are given an orientation to the program. This includes more detailed explanations of the curriculum, instructional techniques, support services, student and parental expectations, and expected outcomes of the program.

Monitoring and Follow-up

The collection and use of student information does not end when the student enters the program. With at-risk students, it is vital to continue to monitor their progress and adjust the program when necessary. Such a high level of data collection is well-suited to a computer database of student records available to all those who are involved with students' programs. One step toward ensuring program success is keeping these records up-to-date and making sure relevant staff have aecess to and use the information on a regular basis.

Instructional Strategies

One of the most well-documented findings from demonstration projects is the strong relationship between the way the curriculum is delivered and success of at-risk students. The wide variety of instructional strategies and the flexibility with which they are employed distinguish an enhanced vocational education program from more traditional approaches.

The following are examples from demonstration projects of instructional approaches that are successful with at-risk students.

Computer Assisted Instruction (CAI)

Computers are very successful in providing initial or remedial instruction in all areas of an enhanced curriculum. Also, students indirectly and incidentally learn many computer literacy and problem-solving skills that will help them later in jobs or in postsecondary education.

- ▲ CAI is the basis for instruction in English, mathematics, science, and social studies in the Lifelong Options Program (C. H. O. P. S.) in Broward County. Under direction of certified academic teachers, students progress through the WICAT program at their own rate. CAI is supplemented with direct teacher instruction and printed materials.
- ▲ The Business Technology courses are taught in a computer lab in the Academy in Redwood City. Student terminals are networked to a central database which allows for both teacher-directed group instruction and individual work by students.
- ▲ The Computer Systems Research Basic Skills Software is used to provide students with remedial instruction in the GRADS program in Cushing.
- ▲ Computer software provides supplemental instruction in the career-related English class in the Lifelong Options Program (Y. E. S.) in Anne Arundel.
- ▲ In several projects, computers are used for keeping records, developing materials, and tracking students.

Multimodality Technology

Multimodal approaches, designed to appeal to all the senses, have been very helpful in meeting the wide range of learning styles of at-risk students.

- ▲ Listening stations, interactive video, video tapes, and films are used as basic instructional approaches in the Academy in Redwood City and the Community Career Centers in Baltimore County.
- ▲ In the GRADS program in Cushing, teachers dictate printed materials used in the home high school and at the vocational center and provide tape recorders so students with reading problems can hear lessons as they read them.
- ▲ The Bilingual Vocational Education Program in Richmond uses an innovative, hands-on approach to assessing vocational interests and aptitudes of students taking English as a Second Language. New students view a video (The Pictorial Inventory of Careers) that describes requirements for a variety of jobs and the interests and skills needed for each. While watching the video and with the help of bilingual aides, students mark a checklist to indicate their interests. Based on these interests, they then progress through a series of work "samples." In specially designed carrels, they listen to tapes that tell more about a variety of jobs and complete simple hands-on tasks for each job (e.g., hooking up plumbing between a wall pipe and a sink or wiring a circuit from an electrical source to a light bulb).
- ▲ The North Dakota Project COFFEE Vocational Training Program uses mobile occupational units which contain equipment to supplement programs in auto mechanics, welding, electronics, carpentry, health services, and plumbing.
- ▲ The STAR Program in Santa Ana provides individualized self-paced instruction using computers, audio tapes, videos, and laser disks in a learning center approach in the Adult Basic Education and English as a Second Language classes.

Competency-Based, Individualized Instruction

At-risk students respond favorably to specific, written objectives and assignments to guide them in completing their program. Competency-based plans give them direction and provide motivation to accomplish tasks.

▲ In Detroit, the Preparing At Risk Youth for Employment program has developed a well-defined set of competencies in each occupational area. Each student has a chart with relevant competencies and can check off the date when tasks are completed. These charts guide and motivate students and are helpful in job interviews with respective employers.

▲ Each student in the Community Career Centers in Baltimore County has a Competency-Based Individual Program Plan which includes academic, vocational, and counseling goals and benchmarks leading to successful program completion.

▲ At the Technical Alternative High School in Valhalla, each student has an Individual Education Plan reflecting curricular goals in required areas at levels appropriate to the student's aptitude.

▲ In the North Dakota Project COFFEE Vocational Training Program, each student follows an Individual Education Plan that includes comprehensive vocational goals and activities as well as those in the academic area.

▲ The STAR Program in Santa Ana provides three open-entry, open-exit competency-based instructional programs: English as a Second Language, Adult Basic Education, and High School Subjects. Placement in these programs is based upon initial assessment results, and students are placed in one or combinations of the programs. All students must demonstrate competence for course completion.

Mentoring

Mentoring is a successful approach for any part of an enhanced vocational education program. It helps students learn about the real world. It teaches them to adapt to different people and situations in ways not possible in a school setting.

Several demonstration projects are using mentoring to good advantage with students.

▲ Mentoring is a major instructional approach in the Vocational Mentoring Program at Grant High School in Portland. Staff at a hospital provide vocational-technical training and other services to students in a school-community partnership program. Mentors place students in occupational settings, instruct them, and evaluate their progress. This program has developed a manual to guide mentors in their responsibilities.

Experiences in this program have shown that mentors can help students in a work setting in ways that might not mean much if they happen in a classroom. For example, a nurse-mentor told one student that her hairdo was inappropriate for a hospital and that she was wearing too much makeup for the kind of job she was doing. The student did not get upset like she might have if a classroom teacher had told her that. Next time she reported to work at the hospital, her hairdo and makeup were much more conservative. The mentor helped change the student's behavior without doing any damage to the relationship.

▲ In the Business Technology Academies in Redwood City, each 11th grade student is matched with a mentor from the business community to give students a role model and a "friend in industry" who can offer information and guidance on how to achieve success.

▲ Seniors serve as mentors for juniors in the GRADS program in Cushing.

Tutoring

Tutoring, an approach more specific than mentoring, is designed primarily to provide help in achievement of a task. A mentor might engage in tutoring in addition to the other activities that usually define the mentor's role.

▲ In the Bilingual Vocational Education program in Richmond, bilingual aides attend vocational classes with students, translating lectures or instructions, making sure students understand materials, and assisting students to succeed.

▲ Also in Richmond, second year ESL students tutor first year ESL students, and English proficient students in the vocational education program tutor ESL students in occupational content, equipment use, and safety.

▲ In Detroit, special paraprofessionals work in the classroom with the regular teacher to assist students to better understand the hands-on or vocational class assignments, and basic education teachers tutor students in the academic area of their vocational program.

▲ In Anne Arundel, vocational specialists work individually with students in the school's shops and labs on components of their lessons with which they are having difficulty.

▲ Special vocational and academic instructors in the North Dakota Project COFFEE Vocational Training Program provide tutoring on a pull-out basis at students' home schools, vocational schools to which students are bussed, or a community facility. Students who have become familiar with computers instruct other students in the use of technology.

▲ Staff of the Lifelong Options Program (Y. E. S.) at Anne Arundel have put a twist to the tutoring process. Students in the project tutor young students at a nearby elementary school. It helps project students learn basic content and skills at the same time they improve interpersonal and leadership skills.

▲ The Santa Ana Public Library Literacy Council has provided two trained volunteers as tutors for STAR students. They meet with students in the counseling office, in classrooms, and in the community for tutoring sessions. According to Adrienne Sims, Project Director of the STAR Program in Santa Ana, "Their presence has made a difference in the lives of STAR students. Not only are they bright, but they are warm and caring as well."

Modification of Materials

It sometimes becomes necessary to make adaptations and modifications to texts, tests, technical manuals, and instructor handouts to help at-risk students better understand materials. The GRADS program in Cushing uses this approach extensively. Types of modifications include:

▲ Lowered readability by having shorter sentences, eliminating unclear terms, shortening directions, and improving page and question formats on tests.

▲ Color coded material using different colors for important information (yellow), vocabulary terms (pink), and definitions (green).

On-the-Job Experiences

One of the best ways to teach vocational and employability skills is through a part-time job related to what the student is doing in school.

▲ The Business Technology Academy and the STAR Program, both in California, help students obtain part-time employment as part of the school program. An important component of the work experience is that students apply for these jobs just as they would in the open market. With training and help from teachers and mentors, they prepare resumes, complete job applications, and have interviews.

▲ In the Community Career Centers in Baltimore County, the facilities and grounds become a vocational learning laboratory as students maintain, repair, renovate, and improve buildings, grounds, and equipment.

▲ In the Lifelong Options Program (O. A. S. I. S.) at the Oconee County alternative school students learn a variety of employability and social skills working in the school-based business making picnic tables. This entrepreneurial enterprise is a beautiful example

of serendipity at work in these flexible, experiential projects. Louis Holleman of the Oconee Alternative School in the Lifelong Options Program, explains: "We needed a few picnic tables where students could eat their lunch, so we asked a couple of students to help build them. When other students saw what we were doing, they wanted to be involved, too. We found that some students with low self-esteem, the ones we wouldn't have chosen, turned out to be the best workers."

- ▲ In the Lifelong Options Program (Y. E. S.) in Anne Arundel, students participate in Community-Based Education where they earn academic credit and gain job skills working in a professional office or business.
- ▲ In the North Dakota Project COFFEE Vocational Training Program, students engage in job shadowing activities in local businesses.
- ▲ Students in the third year of Detroit's Preparing At Risk Youth for Employment Program, after completing and mastering the employability skills training components, participate in a job cooperative experience where they are supervised cooperatively by the job site staff and the vocational-technical center staff.

Social Activities

Many of the personal and social skills students need for success on the job or in higher education can best be learned in social activities with peers, teachers, mentors, and parents. Students have fun, develop friendships, learn shared goals, and improve self-esteem.

- ▲ Outdoor sports, dances, food fairs, and car washes to earn money for a graduation party are examples of social activities organized by the STAR program at Rancho Santiago Community College.
- ▲ Several projects involve students in organizations and activities to refine their technical and leadership skills.
- ▲ Several projects involve students in "ropes courses," "trust walks," and other personal and social awareness activities.
- ▲ All projects have social activities such as dinners, awards banquets, and picnics where students get together with teachers, administrators, parents, mentors, and others from the community.

Incentives

At-risk students often need strong incentives to help them change previously negative attitudes and habits regarding school and work and to bring them into and help them maintain contact with the curriculum. Incentives can be both tangible and social in nature, but their use must be based upon what works with the particular students involved in the program.

- ▲ At the Community Career Centers in Baltimore County, students receive "scrip" for punctual attendance, daily work hours, and progress in their individual education plan. Monthly auctions allow them to buy sporting goods, food items, certificates for free meals at area restaurants, clothing or accessories, video and music equipment, and other items donated by community businesses.
- ▲ In the Business Technology Academy in Redwood City, student-of-the-month awards are given to students with a letter of recognition sent to parents. Students who have excellent attendance can eat lunch with the project staff in the restaurant of a prominent hotel which serves as a school-business partner. At the end of the year, students receive awards for academic and personal achievement.
- ▲ In the STAR program at Rancho Santiago Community College, students receive free textbooks and monthly bus passes for use in traveling to school or work.

▲ In North Dakota, students are paid one dollar a day for attending school.

▲ In Detroit, students have opportunities to earn personal recognition for skill and leadership accomplishments in regional, state, and national events sponsored by business, industry, and approved student organizations.

▲ At all project sites, paid employment is a strong incentive for students.

Speakers and Field Trips

All projects invite individuals from the private sector who cannot be mentors to speak with students in the classroom to share personal experiences. These individuals are a rich source of information for students regarding such matters as career selection, employment skills, and importance of education.

▲ At some project sites, industry liaisons coordinate engagements or develop a list of speakers whom teachers can invite on their own.

▲ At several project sites parents serve as speakers.

Field trips are an excellent source of exposure to the world of work and can take a variety of forms. These trips allow students to become familiar with companies and their products, learn about entry-level positions and qualifications, and observe people working in jobs to which students might aspire. Marilyn Raby, project director of the Business Technology Academies, emphasizes the importance of field trips when she says, "For many students, the field trips are their first opportunity to see a business environment firsthand. Without this experience, it would be difficult for them to envision themselves working in such a setting."

▲ Some projects conduct tours of local businesses, industries, and professional offices.

▲ At some project sites, visits are followed by classroom discussion and writing assignments designed to help students see the relationship between their vocational and academic programs.

▲ Some projects take students on orientation tours of local colleges and universities.

Cooperative Learning

At-risk students respond well when they work together and learn cooperatively.

▲ In the Lifelong Options Program (O. A. S. I. S.) in Oconee County, groups of students plan, build, and sell picnic tables under the direction of project staff.

▲ In the Business Technology Academies, a team of students worked together to make simulated sales presentations to the class on a new software package.

▲ Cooperative learning is a basic tactic in group lessons on employability skills and life-coping skills training in most demonstration projects.

Applied Academics

One of the most important instructional trends falls within the category of applied academics—teaching abstract concepts within a concrete, practical, hands-on context—an approach highly motivating to at-risk students. The goal is to teach concepts in real life situations so students will understand them better and be able to use them to solve problems in real-life situations. Bob Cullison, Administrator of the Catonsville Community Career Center in Baltimore County, explains, "This kind of 'learning by doing' helps bridge the gap between traditional academics and practical application. It acts as the webbing that binds together other parts of the program. Students are more able to relate academics to transferable life skills and work-related experiences."

Demonstration projects have shown success with a range of applied academics approaches:

▲ In the Bilingual Vocational Education program in Richmond, students take classes in Content ESL. The course focuses on English, but within the context of social living or math skills needed in job performance.

▲ A Career-Related English class is taught in the Lifelong Options Program (Y. E. S.) in Anne Arundel. The course stresses English applications in the world of work using writing exercises, simulated interviews, job form completion, and other activities related to students' vocational preferences.

▲ In the Vocational Mentoring Project in Portland, skills students learn in their academic classes are reinforced by mentors in real job situations. For example, students must demonstrate good reading, writing, computation, and problem-solving skills in every aspect of their work experiences in the hospital setting.

▲ The curriculum of the Business Technology Academies in Redwood City allows students to apply interactive technology to the English, social studies, and mathematics courses through the use of a fully networked, state-of-the-art computer laboratory.

▲ The Academic Skills Curriculum at the Technical Alternative School in Valhalla gives students the opportunity to apply academic skills across a wide range of real-life goals and objectives within an Individual Education Plan.

Curriculum Integration

Some reformers argue that improvement of students' employability skills requires improvement in vocational education; others believe that vocational education students need better academic skills. However, a growing number of educators hold that integration of academic and vocational education is the approach which potentially will have the greatest impact in reaching diverse populations and producing the most significant learning outcomes.

Research by Grubbs and his associates (1991) uncovered several approaches to integration and led to the conclusion that no single model or "best" approach exists. This is exactly what staffs of some demonstration projects discovered as they attempted to integrate their programs. These projects have found success with several approaches they have used to integrate not only academic and vocational education, but all aspects of the program as well.

▲ The Technical Alternative High School in Valhalla has achieved integration through a systematic process of screening students and programming and evaluating their progress. Academic, social, counseling, and vocational goals and suggested activities are organized and cross-referenced in a guide, *The Social Skills Curriculum and the Counseling Act*. The student's program is detailed in an Individual Education Plan. Students have an opportunity to study vocationally-related academics, and teachers of academic courses work with occupational teachers to maintain ongoing communications about the curriculum.

▲ In the Business Technology Academies, a committee for curriculum development and integration made up of district personnel, teachers, and business representatives formulates content for each course and lays the groundwork for integration of vocational and academic course content. Teachers then work to coordinate student assignments, materials development and selection, and reinforcement activities across courses. For example, English students might write a paper on a topic suggested by the vocational teacher; then the vocational teacher will read it for content and the English teacher will read it for writing and grammar. Also, English lessons might include writing business letters, preparing resumes, practicing interviewing skills, and reading and writing business reports. This approach allows for the integration of all aspects of the curriculum, including

employability and life-coping skills that are learned while students are developing academic and vocational skills.

▲ In the North Dakota Project COFFEE Vocational Training Program, basic skills in language, reading, and math are integrated with occupational and preemployment components through activities such as reading equipment manuals, calculating measures, preparing resumes, and completing job applications.

▲ In the GRADS Program in Cushing, all instruction and tutoring are done with an applied focus. All students study vocational-specific academics in a laboratory setting. Students are involved in cooperative learning, and they perform lab assignments directly relating to what they are studying in their classes.

▲ In the Vocational Mentoring Program in Portland, vocational experiences are interwoven into students' academic course work. The hospital environment in which mentoring occurs becomes the laboratory for demonstration and application of basic skills and work readiness skills and behavior.

▲ At several project sites, vocational and academic teachers are meeting together one-on-one to infuse academic content with more vocational relevance and to instill vocational education with more academic rigor. A key element of this cooperation is team teaching. For example, in a vocational classroom, the academic teacher presents an academic concept and the vocational teacher covers the application of the concept in a hands-on experience. Also, the academic teacher or a paraprofessional works in the vocational education classroom to provide remedial help to students when it is needed.

Other recommendations from these projects about integration are:

▲ A school which cannot start with the most complete approach can begin simply and adjust as progress is made;

▲ Integration is easier when academic and vocational education faculty are located on the same campus;

▲ Faculty must have skills for working in teams for planning and instruction;

▲ Faculty must have positive attitudes about the importance of integration;

▲ The administration must provide the funding, training, and release time necessary for planning and implementing an integrated curriculum;

▲ Integration improves the overall curriculum and instructional process by causing faculty to evaluate their subject areas from perspectives of other curriculum areas, other faculty, and the students involved;

▲ Integration of the academic and vocational curricula is the linchpin to restructuring the entire school program because all parts of the curriculum as well as support services must be coordinated;

▲ Integration involves more people in the curriculum process as academic and vocational education faculty seek information and additional resources from other educators, business leaders, human service agency personnel, and parents; and

▲ Integrated programs involve more real life activities and thus motivate students to learn.

Counseling and Guidance

Counseling is a major way to ensure that at-risk students maintain contact with the curriculum. It is the glue that holds the program together and allows students to stay connected to the school. Therefore, counseling must occur when and where students need it. Jerry

Bodine, project director of the North Dakota Project COFFEE Vocational Training Program, sees counseling as one of the most important components of the program which serves students on or near Indian Reservations. According to Bodine, "Counseling is very important in improving self-esteem and helping these students see wider options for their lives."

Demonstration projects found that the type of counseling needed by their diverse groups of students goes well beyond simple course planning and routine testing. It includes academic guidance, career awareness and planning, personal counseling, human service agency referral and coordination, and family support.

Students need counseling and guidance in at least the following areas:

- Educational and career planning;
- Personal competence and problem resolution;
- Identity, self-concept, and self-esteem development; and
- Social relations skill development.

Counseling in an enhanced vocational education program is labor-intensive; therefore, the student-counselor ratio must be small enough so students will receive help when and where they need it. Obviously, this is not a one-person operation. Unfortunately, financial and logistic constraints usually make it impossible for a school to employ enough trained professionals to provide all the counseling services needed by at-risk students.

Therefore, schools can adopt the "emergency room" concept rather than the "general practitioner" approach to counseling. Such a strategy makes it possible to complement professional counselors with a support system of paraprofessionals, mentors, parents, students, human service agency representatives, classroom teachers, and other school staff. A trained counselor is needed to coordinate this approach. However, others may assume many of the roles and duties traditionally assigned to counselors which go undone for lack of time. Examples from demonstration sites illustrate this point:

- In the STAR Program at Rancho Santiago Community College, demonstration project staff each serve as an advisor to an equal number of students. Students meet with them intermittently, and staff members advise and track students in terms of problems and progress. Staff also monitor weekly computerized attendance reports for use in individual student conferences.
- In the Vocational Bilingual Education Program in Richmond, aides, in addition to instructional duties, also provide much counseling to students. For example, they serve as mediators between students and other staff and administrators. They advise students about how to behave with others and explain U. S. culture to students. Furthermore, since aides develop such a close relationship with students, they are the ones students talk with about problems and concerns. Sometimes aides provide advice to parents about students' work and need for education.
- In all demonstration projects, mentors within the school and from the community engage in activities that can readily be described as counseling. Mentors develop a trusting relationship with students, listen to all their concerns and ambitions, take them on trips outside the school, and generally serve as adult role models for students. Quite often, mentoring is credited by students and demonstration project staff as the key to helping them develop the self-confidence to succeed in school or in their job situations.

Just as with instructional approaches, a wide range of counseling arrangements are needed with at-risk students. Some of these include the following:

- Planned, regularly-scheduled group counseling.
  Counselors often conduct planned group sessions, the content of which can include more formal sessions utilizing a planned curriculum of life-coping skills, self-esteem enhancement, and interpersonal relationship skills development or less formal discussions of student concerns and problems. In one of the more extensively organized approaches, the Technical Alternative High School in Valhalla uses a "Social Skills Curriculum" consisting of a developmental sequence of information covering topics related to the personal skills of human adjustment and social interaction which are incorporated into counseling IEPs for students. This curriculum involves the classroom teacher and the staff psychologist who meet with students individually and in groups on a regularly-scheduled basis to provide guidance to students in their adaptation to school and work. Counseling is guided by a formalized approach called "The Counseling Act" which provides the basis for a specific, structured learning experience in a counseling setting. In the Lifelong Options Program (C. H. O. P. S.) in Broward County and the GRADS Program in Cushing, counselors also incorporate life-coping skills training exercises in scheduled group counseling sessions. At The Community Career Centers in Baltimore County, students and faculty participate in sessions that take the form of a "town meeting."
- Planned or unplanned individual counseling.
  All demonstration projects provide individual counseling. Planned activities include help with course enrollment planning, job services, vocational-technical application processing, school policies and procedures, and the like.
- Spontaneous, crisis intervention.
  Demonstration project staff learned an important lesson about counseling with at-risk students: Avoid scheduling all of a counselor's time in structured activities. Otherwise, they will not be available when needed for crisis situations. It is important to have some counseling planned on a regular, frequent schedule, but counselors must also be available for unforeseen crisis counseling sessions.

Some other tasks that counselors undertake include:

- Coordinating services and interventions.
  It is important that at-risk students not go very long without intervention when they are having problems. Counselors coordinate efforts to monitor student progress in the program by collecting assessment information and staff feedback and sharing it with everyone involved with the student. Demonstration project staff find that it is particularly important to keep an almost daily check on student achievement, attendance, and behavior to check for problems. When problems do occur, counselors help arrange for appropriate interventions. These include arranging for tutoring or mentoring, parental contacts and visits, or changes in the students' programs. When students' programs are provided at more than one location (for example, at a home high school and a vocational center), the counselor often travels between schools to meet with teachers and other staff to coordinate activities.
- Making referrals to human service agencies.
  Often when problems arise that are beyond the ability of the counselor or the capacity of the school to solve, students are referred to outside agencies. Demonstration projects make many types of referrals: alcohol and drug abuse treatment, JTPA, Department of Human Services, Social Security, job search and placement, resources for food, clothing, transportation, medical help, and other essentials.

Student Management and Discipline

Demonstration projects found that many students who are at risk of dropping out of school have a history of discipline problems. These include attendance, attitude, grades, depression, drug use, home problems, and many others. In addition to dealing with these problems, vocational schools sometimes face other problems created by policies over which they have little control. For example, students who are suspended from the home school are often required to miss vocational classes as well. In the demonstration projects where programs are designed to prevent dropouts and school failure, extra care is taken before removing a student from the program for behavior or academic problems. Although students are expected to meet high standards, staff give students with problems opportunities to improve before they are terminated from the program. The following findings from demonstration projects provide guidelines for dealing with student management and discipline.

- A clearly-defined set of procedures for student management is developed and distributed to staff, students, and parents, all of whom are involved in their development.
- Procedures are administered in a fair, objective, and consistent manner.
- Behavioral contracts—which specify expectations, deadlines, and consequences for all parties—are often effective.
- When a student acts inappropriately, staff use counseling techniques to defuse the situation so everyone can get on with learning. This approach usually works better than punishment.
- When students must be removed from class, the use of in-school suspension so students continue with learning is preferable to out-of-school suspension.
- If behavior becomes serious enough for the student to be removed from school, the student should be referred to a social agency for follow-up.
- Counselors not only take an active role to intervene when students exhibit behavior problems; they help teachers learn to use effective interventions with students. Counselors also act as student advocates and mediators to intervene and clarify situations to other school staff.
- A program of behavior modification sometimes helps students move toward more self-control and enables staff to assess the effectiveness of various strategies with different students and to modify programs.

Community Collaboration

The primary goal of school-community collaboration is to provide a bridge for students between the school and the real world. Effective collaborative efforts transport students into the community and bring the community into the school so education becomes alive and vital. Learning and living become connected in a meaningful way. The support the school receives from the community in money, equipment, facilities, personnel, and management expertise are all directed toward achievement of this goal.

School-community partnerships are extremely important to an enhanced vocational education program. Peggy Walters, teacher in the Lifelong Options Program (Y. E. S.) in Anne Arundel, describes what school-community involvement can mean to the school: "What community people have done is let us invite them to participate and be teachers for students who need their help. No one in the community said no to me when I asked for help. I have more sponsors than students to place there."

Demonstration projects engaged in numerous partnerships with businesses, industries, human service agencies, educational institutions, and government agencies.

Examples of these partnerships include the following:

- Educational Reform Coalitions;
- Advocacy Groups;
- Adopt-a-School Programs;
- 2000 Business Partnerships;
- Parent-Teacher Associations;
- Department of Probation;
- Private Industry Councils;
- Service Providers Agency Network;
- Advisory Committee/Councils;
- Business/Industry Councils;
- Vocational Industrial Clubs of America;
- Dropout Prevention Collaborative;
- Law Enforcement Agencies; and
- Professional Associations.

Activities of these collaborations are too numerous to describe, but a few examples include the following:

- Businesses and organizations provide personnel who participate as speakers, mentors, tutors, and teacher aides; act as liaisons to the school; and serve as members of advisory committees, curriculum committees, policy councils, and other groups;
- Businesses and organizations arrange for tours of their facilities;
- Community personnel provide assistance to faculty and staff by keeping them up-to-date on skills and educational training required for various jobs;
- Experts in occupational areas volunteer to serve as evaluators for performance testing in vocational technical programs and to provide individual consultations and offer students assistance about weaknesses;
- Businesses and organizations provide on-site facilities and equipment as well as personnel and staff to mentor and teach students in high school credit programs;
- Businesses and organizations provide part-time jobs and other work experiences for students;
- Businesses and organizations underwrite incentives, awards, and ceremonies that highlight student achievement;
- Businesses and organizations contribute "in-house" resources such as labor and materials to develop promotional materials and facilities for meetings; and
- Businesses and organizations participate in Job Fairs.

Experiences at demonstration projects confirmed the concept that a partnership is a two-way street: If it is to succeed, everyone involved must benefit, not just the school. Nonschool members of a collaborative effort must be seen as equal partners and must share in decision-making about important matters.

Parental and Family Involvement

Demonstration projects have shown that parental and family involvement are important in a number of ways. Although it is often difficult to get parents actively involved in programs dealing with educationally and economically disadvantaged students, such interest, support, and involvement can contribute to student success. Therefore, it is extremely important that schools have active and continuous communication with parents. A strong school-parent connection will send a clear message of high expectations and support to students.

Students are helped sometimes only because the program has a component of family outreach. For example, at one project site an outreach counselor convinced a father and his son's employer that the young man should work only 25 hours a week in order to continue in high school. In another, a teacher of Vocational ESL, discovering that one of her students ate only one meal each day because her family was poor, helped the mother receive food stamps and discount food services which in turn helped the girl's progress in the program. At this same site a girl with a serious health problem received timely medical assistance, laboratory tests, and x-rays because of the intervention of a school counselor.

Demonstration projects use a number of approaches to communicate with parents and involve them in their children's education. For example, they:

- Assess parents' interests in participating in meetings and workshops on careers, teen issues, parenting; being a member of a parent organization; accompanying students on field trips; acting as a speaker in the classroom; and assisting with special events;
- Keep parents informed of the program's goals and activities through regular newsletters mailed to the home;
- Involve parents in special functions such as awards ceremonies, picnics, talent shows, and job fairs;
- Contact parents in person when feasible, by visit or phone, rather than by letter;
- Conduct monthly meetings where some phase of the program is highlighted and presented by students;
- Provide counseling and referral services for parents;
- Provide workshops to teach parents how to help their children with school work;
- Recruit parents for advisory committees on curriculum, policies and procedures, and program operation;
- Hold meetings at places other than the school when it is more convenient for parents; and
- Hold meetings and parent-teacher conferences at varying times during the day to accommodate parents with schedules that differ from that of the school.

Some demonstration site staff have expanded the concept of parental involvement to include provision for child care and parenting classes for students enrolled in their programs.

- The Vocational Mentoring Program in Portland includes a Teen Parent Program, a class for pregnant or parenting teens to help with parenting skills, group support, vocational education services, and career planning.
- The GRADS Program in Cushing provides child care for student mothers at the school site.

Staff Selection and Development

If the curriculum is the heart of an enhanced vocational education program, the faculty and staff are its lifeblood. Success in any program is determined by the quality of the people who run it. In the words of Mary Jo Bateman, Project Director of the Bilingual Vocational Program in Richmond, "You have to be able to listen to these kids and understand where they are coming from. A lot of our success is just the good, caring people we have working with our program." The importance of staff selection and development is reflected in the following comment by Don Hardesty, Coordinator of the Community Career Centers in Baltimore County: "You just can't assign people to a program. . . . You have to select them carefully and give them a chance to learn. . ."

Programs for at-risk students are labor-intensive and take more hours of one-on-one contact between students and staff. Therefore, the number of people needed to operate an enhanced vocational education program will, of necessity, be higher than for a traditional program.

Depending on the type of students in a program, the following categories of staff are needed:

- Teachers, including academic, vocational, ESL, special education, and bilingual specialists;
- Counselors with academic and vocational counseling skills;
- Outreach Specialists for home contacts and as liaison with businesses, human service agencies, and the community;
- Assessment Specialists for student screening and continuous monitoring, preferably with skills in computers and databases;
- Support Staff such as secretaries, clerks, and administrative assistants; and
- Administrators such as directors and assistants.

These categories represent roles and responsibilities rather than full-time professional positions. Some of the tasks can be accomplished by mentors, tutors, students, parents, other volunteers, and paraprofessionals. *However, it is important to note that an enhanced vocational education program cannot be operated by assigning extra duties to an existing staff who are expected to continue with business as usual.* The number of extra staff will depend on the size of the special student population and types of services to be offered. At a minimum, it is essential to hire someone to coordinate special services and volunteers as well as additional special teachers and counselors to work with the existing staff.

Not everyone is prepared for the great demands of an enhanced vocational education program such as working with at-risk students, working cooperatively with others, and working in flexible arrangements. Evaluations of demonstration projects and experiences of those people responsible for selecting and training staff in the projects have revealed that programs have a greater chance of success if staff possess the following knowledge, understanding, skills, and attitudes:

- Demonstrate ability to write, speak, and organize;
- Possess knowledge and skills in their specialty area plus the areas of employability skills, life-coping skills, and lifelong learning skills;
- Demonstrate instructional strategies appropriate for working with at-risk students including individualized instruction, computer assisted instruction, cooperative learning, and experiential learning;
- Demonstrate ability to working with diverse groups of students including those with learning handicaps as well as academic-track students;
- In programs with limited English proficient students, possess bilingual ability;
- Possess counseling, interpersonal, and student management skills;

- Possess advocacy skills and a willingness to put students first;
- Be able to work in teams;
- Be knowledgeable about community resources;
- Be able to deal with a variety of people outside the school and present a professional image to the community;
- Understand and have a positive attitude toward the program and students involved;
- Understand minority cultures and have ability to work well with cultural diversity;
- Be willing to be flexible, take chances, and deviate from traditional practices;
- Be willing to take on extra duties; and
- Be willing to continue to learn and keep up-to-date.

These characteristics and skills can serve as the criteria for selecting new staff for the program. They can also serve as the basis for continuing staff development for all staff which would include the following:

- Orientation to the overall program and regular updates on the program's progress;
- Preimplementation training for staff as determined by needs assessment of their skills including help in a subject area, instructional techniques, interpersonal relations, understanding students, classroom management, team teaching, assessment and evaluation, family involvement, and many others; and
- Continuing staff development on all aspects of needs with the staff involved in planning.

Demonstration projects employ a variety of staff development and support activities.

- The Community Career Centers in Baltimore County conduct monthly seminars where staff meet with outside consultants including psychologists and behavior specialists.
- The GRADS Program in Cushing helps teachers who have not finished a college degree before starting to teach in vocational programs understand instructional styles, teaching methods and techniques, and student learning styles. GRADS also provides a peer coaching program wherein an instructor is videotaped presenting a lesson to the rest of the faculty who write critiques of the presentation. The instructor uses the tape, critiques, and help from a supervisor to make improvements.
- In the Lifelong Options Program (C. H. O. P. S.) in Broward County, staff attend a two-week summer institute conducted by district specialists and outside consultants.
- The North Dakota Project COFFEE Vocational Training Program holds regularly-scheduled telephone conference calls to facilitate communications among project staff and let them share ideas with each other.
- Several programs have a system for providing ongoing emotional support for staff including collegial support meetings, group support meetings with a trained psychologist from the community, staff retreats, "ropes" courses for staff, and individual support both at school and from the community arranged by the school district.

Flexible Scheduling

Neil Maas, counselor in the Lifelong Options Program (C. H. O. P. S.) in Broward County, Florida, believes that flexibility is essential for at-risk students. He states, "It's difficult to be all things to all people, but schools tend to be fairly inflexible. Because of that, students who can't fit into a seven period day, homework everyday, and classes of thirty-five or more can't do well and drop out. We need a safety net to catch them." Part of that safety net is flexible scheduling—allowing students to come into contact with the curriculum at a variety of times and in a variety of locations that better fit their schedules or learning styles.

Sometimes this means a schedule for students in an enhanced vocational education program that is different from most other students. Often, the school must take students when they enter the program, at any stage, at any time during the year. This means much more individualization through greater use of technology, small classes, tutors, mentors, and family involvement. This is particularly true for serious cases, like ESL students in Richmond or special education students in Valhalla.

Demonstration project staffs have had success by varying schedules in ways such as the following:

- In the Lifelong Options Program (Y. E. S.) in Anne Arundel, the Career-Related English class is offered both during the school day and after school. Also, Community-Based Education experiences are set up to fit students' schedules.
- In the Lifelong Options Program (C. H. O. P. S.) in Broward County, some students come to school at 7:00 a.m. and complete their vocational course work before academic classes start at 9:00 a.m. When academic classes end at 2:00 p.m., they are free to leave school. Others begin their day with academic classes at 9:00 a.m. and take their vocational education classes in the afternoon.
- In the program Preparing At Risk Youth for Employment in Detroit, some minorities drop out of school at midsemester to assist with harvesting and return to school when the work is finished. Staff understand this seasonal system and are flexible in accepting students back and working with them to catch up.
- In the Vocational Mentoring Program in Portland, students work four to six hours each week at Good Samaritan Hospital and rotate work assignments during the school year. Some students work in the mentoring program in the morning and take academic courses in the afternoon while others reverse this schedule.
- The Business Technology Program in Redwood City is designed as a three-year commitment beginning with the 10th grade. However, some students with special circumstances are admitted later and provided with remediation to make up missed work.
- The STAR Program in Santa Ana is designed so students can enroll in adult basic education classes through the Continuing Education Division at Rancho Santiago College. This arrangement is more convenient to most students and allows them to work toward a diploma or certificate more efficiently. Also, classes are scheduled so students can attend in the morning, afternoon, and evening during the week, and on Saturday morning.

Summer School

Most educators think of summer school in relation to students making up failed work. However, in addition to retaking a failed course, there are other reasons why summer school is a good investment for schools in working with at-risk and disadvantaged students, many of whom are one or two years behind their age mates to receive a diploma. For example, some schools will not allow students to take two courses in the same content area concurrently during the regular school year. Summer school gives them an opportunity to take these courses and stay on track for graduation. Summer school is also helpful for students who find that the time a particular course is offered at the home school during the regular academic year does not fit into their schedules.

Several demonstration projects include summer school as an integral part of their programs:

- The Vocational Mentoring Program in Portland operates a summer program at the Good Samaritan Hospital. Students receive a stipend for a six-week summer program similar to their school-year program and receive full school credit for the experience. As part of this program, students are given information and orientation about program offerings at the local community college.
- The Detroit Preparing At Risk Youth for Employment Program operates a summer program for academic enrichment, continued support services, and additional and creative hours of experience in the vocational area.
- The GRADS Program in Cushing provides summer school for students who are behind or who need further help in completing requirements for graduation.
- The STAR Program in Santa Ana provides summer school instruction in English as a Second Language, Adult Basic Education, G. E. D. preparation, typing, and computer skills.
- The Community Career Centers in Baltimore County operate year-round programs so students can continue their programs through the summer.

Small Class Size

Administrators are constantly faced with the dilemma of how to serve all students who need help while keeping class size small enough to be of benefit to students. With good intentions to help as many students as possible, but faced with a lack of resources to adequately fund a program, administrators often overload the program to the detriment of the students involved. There is a point of diminishing returns when the number of students becomes too large for the number of staff or the facilities or equipment available.

While research on programs for at-risk students reveals that at-risk and disadvantaged students, when they must work in groups, work best in small groups, experiences at the demonstration sites show that the issue of smaller class size does not always have to be couched in terms of reducing the student-teacher ratio. Rather, the issue can be viewed in terms of increasing the number of student-teacher contacts. If "teacher" is broadly defined to mean any person who can help the student learn, then "teachers" can include tutors, mentors, peers, social service personnel, and parents. Such an approach does not require additional, professionally-prepared teachers or counselors. Instead, it requires a program to recruit, train, and utilize paraprofessionals, volunteers, social agency staff, students, and parents to increase the learning contacts for the student. All demonstration projects use a variety of these approaches to keep class size small.

Transportation

Transportation of students is always an important consideration in the public school system. It becomes an even more important one in programs for at-risk and disadvantaged students. If they do not get to school on a regular basis, they are not going to learn what the schools provide. Particular concerns about transportation of at-risk and disadvantaged students arise when components of programs are provided at more than one location during the day (e. g., the home school and a vocational center), when programs are located in rural communities, or when programs are offered to students with varying cultural backgrounds. Acute problems may arise when the school is responsible for providing bus transportation for students.

Some problems are logistical. For example, Central Area Vocational-Technical School in Cushing provides a bus to transport GRADS students from each feeder school in the morning with a return trip in the afternoon. However, the bus must leave some home schools very early each morning in order to be at CAVT when classes begin, and the afternoon bus often returns the students after the home school buses have left to take students home. Some students have trouble finding transportation in the early morning and late afternoon. The GRADS staff attempt to solve such problems by making arrangements for students to ride with someone who lives nearby or ride another bus to a location near where parents work.

Some problems arise from cultural mores. For example, in Detroit, some bilingual students are reluctant to leave their community, although it is necessary to bus them to vocational technical centers. In other cases, students interested in the program come into conflict with their parents' beliefs. For example, one ethnic group in the community will let boys, but not girls, attend the vocational technical centers. The project staff have intensified communication and involvement with parents in order to allay their fears and make it possible for their children to attend the program.

Still other problems are of a personal nature deriving from students' low self-esteem. For example, Lifelong Options Students in Oconee County initially had to ride the bus to the home high school and then take another bus to the alternative school. Because of the stigma sometimes attached to attending an alternative school, some of these students felt uncomfortable and embarrassed. The situation was resolved when the project staff secured its own bus to transport students directly to the alternative school.

Problems are not so serious for programs located in urban areas where students can take public transportation (e. g., Portland and Santa Ana). However, youth living in urban centers cannot always afford the bus fare. The program in Santa Ana has arranged for STAR students to receive half-priced bus passes for travel to and from school.

The many issues related to transportation of at-risk and disadvantaged students suggest that decisionmakers might be wise to place all programs and support services at a single site. Locating the total enhanced vocational education program on the campus of a vocational-technical education center has several advantages. First, students need not spend a portion of their day traveling between schools. Second, it makes it easier to coordinate support services. Third, it relieves the stress on students with unique problems, such as ESL students and special education students, who are enrolled in the program. Finally, it enhances integration of the total curriculum since all staff are on the same campus.

District Commitment and Support

Commitment of the school district board and administration is necessary for success of an enhanced vocational education program such as the one described here. This commitment must be for the "long haul." The administration must take the program seriously and be an advocate to engender system-wide support. The administration can manifest this commitment and support in a number of ways.

- ▲ Institutionalize the program. An enhanced vocational education program is not just a "special project" targeted to a few students for a short period of time. It is not an adjunct nor add-on that can be cut if the budget gets tight. Such a comprehensive program cannot live or die on "soft" grant money. Rather, it must become a basic part of the regular district program with funding for adequate facilities, staff, and the necessary educational support system.
- ▲ Set high selection standards for staff working in the program. A maxim that should guide district policymakers is that "people make the program." Therefore, it is vitally important that the most competent and caring people be employed to staff programs that target diverse student populations. Such programs should not be dumping grounds for "surplus" or incompetent teachers. It is also inadvisable to assign teachers to such programs against their will. The most effective method is to use volunteers who are fully informed about the program, are screened on a variety of factors such as those described in the section on staff selection in this document, and then given intense staff development training and support. It takes a special kind of teacher and counselor to work with students with diverse backgrounds and learning problems. It also takes a special kind of principal to lead them. District administrators should be just as careful in choosing a principal or program director as in selecting other staff.
- ▲ Ensure autonomy and shared decision-making at the local level. One of the hard lessons learned by staff at the ten demonstration sites described in this document is that day-by-day decisions about at-risk and disadvantaged students cannot be made long-distance in the district office. Principals, teachers, and counselors must have the freedom and flexibility to deal with problems "on the spot." Policymakers and administrators at the district level must be willing to defer to local staffs on issues of schedules, time requirements, class size, teaching approaches, and discipline. At times, school boards must waive some district policies, or at least bend them a little, when local staff feel that it would be in the best interests of students. This also applies to principals and program managers at the local level: they must involve their staffs in decision-making on a day-to-day basis. Nothing will disrupt a program more quickly than a unilateral decision by a school administrator that restricts or interferes with teachers doing something they know is best for students. Flexibility and adaptation are key elements in successful programs for diverse student populations.
- ▲ Instill a guiding vision for the school district. It is difficult for school boards and superintendents to lead unless they convince their followers that they know where they are going. It is particularly important that school leaders at the district level project a clear vision of the importance of an enhanced vocational education program to the students, their parents, and the community, and then communicate this belief to the entire district staff. Such a vision energizes the staff and unites the entire district in a common cause. This vision must include several important elements. First is a commitment to free, public education for all students. Second is the belief that student welfare is the number one concern of the school district. Third is the belief that education is important and should provide both individual and social benefits. Fourth is the understanding that education is

a total community enterprise and a willingness to involve the total community in the operations of the school. Fifth is a commitment to innovation and change when it is deemed to be in the best interest of students and the community-at-large, even when it is not politically expedient to do so.

In the final analysis, school boards and superintendents are responsible for the success of the programs in their district. By making some difficult decisions up front, they can often avoid many problems later on. These experiences of the site demonstration staff speak loudly to policymakers and administrators on how best to operate an enhanced vocational education program for long-range benefits to students, the district, and the community. Furthermore, experiences of the demonstration projects have shown that what works for "dropout prone" students works for all students. Therefore, policymakers might do well to consider providing opportunities and requiring all high school students to participate at some point in an integrated curriculum exposing them to a more experiential, "real world" experience.

3 Demonstration Project Profiles

The following profiles provide the essence of the ten demonstration projects whose research, observations, and experiences served as the basis for *Vocational Education for the 21st Century*. Each profile gives the name of the project, its location, basic program information, and the primary contact. Profiles are presented in the order of their appearance in Figure 1 on page 10.

BILINGUAL VOCATIONAL EDUCATION

Bilingual Vocational Education, a collaborative effort between Catholic Charities of Richmond and Chesterfield and Henrico School Districts, is designed for refugee students with limited English proficiency. The program, located at two district technical centers and one high school, helps students stay in school and prepares them for employment or entrance into mainstream academic classes. Students are helped to develop adequate English skills, personal confidence, and job readiness skills so they can find success in their personal and work lives. Students are mainstreamed into regular vocational education classes with the help of bilingual teacher aides who provide translation, tutoring, and counseling services. Some students may spend half a day at their home high school for ESL instruction and independent living classes and the other half at a technical school where they take vocational education. Others get all their instruction at one of the technical centers. ESL is taught each day; independent living is taught on alternate days. When students become proficient in English, ESL is replaced with regular academic classes needed for graduation. The program staff have developed their own independent living curriculum for refugee students which serves as the basis for instruction in this area. Counseling and support services are directed to the unique cultural needs of these students.

This program serves students ages 16-21 who are nonliterate or semiliterate in the native languages and refugee teens who arrive in the United States too old to learn English and complete traditional high school before their eighteenth birthday.

Contact: Mary Jo Bateman, 1010 North Thompson Street, Richmond, VA 23230.

BUSINESS TECHNOLOGY ACADEMIES PROGRAM

The Business Technology Academies Program is a collaborative effort by the Sequoia Union High School District and local businesses. The program is located on the campuses of two high schools—Carlmont and Woodside. In this three-year program, students receive all instruction leading to a diploma at their high school where a team of language arts, mathematics, social studies, and business technology instructors stay with the same group for three years. Students are blocked for core academic and occupational instruction, and mainstreamed for electives and other school activities. Computer literacy and computer assisted instruction are basic elements of the curriculum. Fully networked, state-of-the-art computer laboratories are used to integrate interactive technology into the English, social studies, mathematics, and business technology curriculum. The curriculum also emphasizes the integration of academic content, business technology, career guidance and exploration, leadership skills, and employability skills. Students receive support activities for job training and counseling from a special advisor for personal/social development. Each student is matched to a local industry volunteer mentor. During the senior year, students may qualify for

work experience through paid summer employment.

This program serves underachieving, economically or educationally disadvantaged students from ages 15-18 who exhibit irregular attendance and low interest in the regular academic program, but with interest and enthusiasm for the Academy program and a willingness to change past school habits.

Contact: Dr. Marilyn Raby, Director, Curriculum Services, Sequoia Union High School District, 480 James Avenue, Redwood City, CA, 94062.

THE COMMUNITY CAREER CENTERS

The Catonsville and Rosedale Community Career Centers in Baltimore County can be described as "educational half-way houses" that help dropouts and potential dropouts ages 14-21 obtain jobs, return to school, pass the G.E.D. examinations, or join the military. Following intensive assessment, every student is provided with a Competency-Based Individual Program Plan which includes academic, vocational, and counseling goals, adventure education, and benchmarks leading to successful program completion. Basic academic skills instruction and upgrading involves computer assisted programs, listening centers, and other nontraditional strategies. The program provides vocational exploration and employability skills training using the maintenance, renovation, and repair of the center buildings and grounds as the primary approach. Social-emotional growth is nurtured through counseling, mentoring, parent involvement, social skills development, self-concept assessment and enhancement, adventure activities, family planning, and problem-solving activities. Through community outreach, students are exposed to educational and employability opportunities. Job search and preparation activities help students make choices based on their interests, needs, and abilities. The program tracks students who leave the centers to provide advocacy, intervention, and counseling through high school and beyond.

The centers serve dropouts or students at risk of dropping out because of low academic achievement, learning disabilities, substance abuse, or juvenile justice system involvement.

Contact: Don Hardesty, Rosedale Community Career Center, 8200 Old Philadelphia Road, Baltimore, MD 21237.

GUIDANCE IN RETAINING, ADOLESCENT DROPOUTS (GRADS)

GRADS is a cooperative effort between Central Area Vocational Technical School and the Oklahoma Child Service Demonstration Center in Cushing. The program is located at the vocational technical center and represents a continuum of services for at-risk students at the center and its sixteen feeder schools. Students spend half a day at the vocational center and half a day at the home high school. Intensive student assessment allows the staff to help vocational education teachers understand students' strengths and weaknesses. Staff develop individualized learning plans for students and provide prescriptive assistance to vocational teachers in innovative teaching strategies, materials development, and test writing. Students receive help in basic skills and occupational-related instruction in a resource room through computer-managed instruction and tutoring. The staff adapts instructional materials by adjusting the readability level and color-coding the text for important information, vocabulary, and definitions. Student progress is monitored on a weekly basis with instructional and behavioral intervention taking place when problems arise. Personal and career counseling are

provided to students individually and in groups. Students are involved in both adult and peer mentoring programs. The program also offers child care, job placement, and transportation assistance services.

GRADS serves students ages 15-19 with a history of low school grades, high absenteeism, discipline referrals, and suspensions or expulsions.

Contact: Celia Myers, Central Area Vocational Technical School, 123 E. Broadway, Cushing, OK 74023.

LIFELONG OPTIONS PROGRAM

This program was developed at the National Dropout Prevention Center at Clemson University in Clemson, South Carolina, in collaboration with the Center on Education and Training for Employment at The Ohio State University and three school districts. Lifelong Options is an enhancement and extension of a model dropout prevention model—Cooperative Federation for Educational Experiences (Project COFFEE)—integrated with vocational education. It is organized around five major components: (1) occupational experiences, including vocational education, entrepreneurial activities, and on-the-job training; (2) academic instruction individualized for basic skills and integrated with the occupational component; (3) intensive individual and group counseling with heavy emphasis on self-concept and character development; (4) employability training with classroom instruction and real-life experiences; and (5) life-coping skills training for decision-making, conflict resolution, and interpersonal skills development. Lifelong Options has been implemented in three diverse school districts—rural, suburban, and urban. Lifelong Options serves students identified by the *Dropout Prediction Scale* (Weber, 1988) as being at risk of dropping out of school and other criteria established by each school district.

Contact: Dr. Jay Smink, Executive Director, National Dropout Prevention Center, 205 Martin Street, Clemson University, Clemson, SC 29634-5111.

The three Lifelong Options demonstration sites are described below with the specific names given to them by local staff and students and local contacts.

Youth Experiencing Success (Y. E. S.)

Youth Experiencing Success (Y. E. S.) is located at the Center of Applied Technology–South in Anne Arundel County, Maryland. Students attend their home high school for part of the day for required academic instruction and come to the center for the special program and vocational education. Y. E. S. provides students a computer-based, career-related English class that can be used for academic makeup credit. Community-Based Education experiences allow students to receive academic credit in English or social studies while gaining valuable on-the-job training working with a business or professional sponsor in the community. Students also receive counseling and engage in other activities to help them develop personal and social skills. One such activity allows students to tutor pupils at a nearby elementary school.

Y. E. S. serves students ages 14-20.

Contact: Karl Behringer, Anne Arundel County Public Schools, 2644 Riva Road, Annapolis, MD 21401.

Changing How our Pupils Succeed (C. H. O. P. S.)

Changing How Our Pupils Succeed (C. H. O. P. S.) is a school-within-a-school located at McFatter Vocational Technical School in Broward County, Florida. Students are blocked for instruction in basic academics taught by computer assisted instruction (WICAT) under the direction of academically-certified teachers. Students take classes in their chosen occupational areas either in the morning before the academic classes begin or in the afternoon after they end. C. H. O. P. S. provides intensive individual and group counseling to encourage positive self-concept and attitudes. Other support activities include job training and personal/social skills development. Upon completion of the C. H. O. P. S. program, students earn a vocational certificate and a high school diploma.

C. H. O. P. S. serves students 15-20 years of age.

Contact: Annette Zylinski, Kathleen C. Wright Administration Center 5th Floor, Vocational and Technical Education, 600 Southeast 3rd Avenue, Ft. Lauderdale, FL 33301.

Oconee Alternative School Is Super (O. A. S. I. S.)

Oconee Alternative School Is Super (O. A. S. I. S.) is the name students gave their alternative school in Oconee County, South Carolina. Students receive core academic instruction in small classes with computer assisted instruction. They receive one elective credit for a course on prevocational preparation and employability skills training. They also receive individual and group counseling at O. A. S. I. S. Students have the option to attend Hamilton Career Center for half a day for basic vocational courses or get on-the-job training in a cooperative education setting. Students operate a school business producing and selling outdoor furniture. Proceeds are used to fund field trips and speakers and support incentive programs. The high school diploma is issued by the feeder high schools.

O. A. S. I. S. serves students ages 14-19.

Contact: Louis Holleman, School District of Oconee County, N. College and N. Broad Streets, P. O. Box 220, Walhalla, SC 29691.

NORTH DAKOTA PROJECT COFFEE VOCATIONAL TRAINING PROGRAM

This program serves at-risk students who live on or near North Dakota's four Indian reservations. It is based upon the model dropout prevention program Cooperative Federation for Educational Experiences (Project COFFEE). Students are involved at least two hours each day in upgrading mathematics, English, and reading skills. A business/industry partnership allows students the opportunity to learn vocational skills through field trips, tours, and work experiences. Counseling utilizes independent specialists and community counseling services. A preemployment component helps students strengthen their value systems, communication skills, decision making, conflict resolution, and interpersonal relations. A physical education component emphasizing lifelong physical activities involves students in team sports, bowling, archery, canoeing, camping, and water safety. Other services include tutoring, mentoring, and on-the-job placement for financial and employment training.

This program serves dropouts or potential dropouts ages 14-22.

Contact: Jerry Bodine, State Board for Vocational Education, 15th Floor—State Capitol, 600 East Boulevard Avenue, Bismarck, ND 58505-0610.

PREPARING AT RISK YOUTH FOR EMPLOYMENT

This is a comprehensive vocational training and support program for at-risk students in twenty-three high schools, continuing education programs, and alternative programs in Detroit. Students spend half a day in required and elective academics at their home schools and half a day in a special program located in Breithaupt, Crockett, Golightly, and Randolph Vocational-Technical Centers. Students are encouraged and assisted to obtain a high school diploma. The vocational-technical programs are outcome-based and lead to certification in chosen occupational areas. These programs were developed by the district staff in collaboration with advisory groups composed of representatives from business and industry, junior colleges, and the Michigan State Department of Education. The program also has a strong school-business partnership which provides material and human resources. Students who begin in the 10th grade can take a three-year cooperative education program where they can work an average of twenty hours per week for pay. Students receive tutoring and a variety of support services from a cadre of special staff at the centers including qualified classroom paraprofessionals, guidance counselors, consultants for the handicapped, deaf interpreters, basic education reading and mathematics instructors, limited English proficient advocates, and prevocational evaluators and assessors.

This program serves students ages 15-19 with low school grades and standardized achievement test scores, who were in an alternative program the previous year, who are 17 years old and classified in grade 9, who are classified as English Limited Proficient, or who are classified Special Education.

Contact: Dr. Stanley Waldon, Office of Vocational-Technical Education, 5057 Woodward #804, Detroit, MI, 48202.

STUDENT TRANSITION AND RETENTION PROGRAM (STAR)

The STAR Program is a cooperative effort among Rancho Santiago Community College, the Santa Ana Unified School District, and Central County Regional Occupational Program. Located at the College's Centennial Education Center, it offers study toward a high school diploma on an individual or small group basis. Following extensive academic assessment, many students are assigned directly to High School Subjects; others are assigned to English as a Second Language or Adult Basic Education before advancing to High School Subjects. At the point they demonstrate proficiency in English, students enroll in vocational courses through the Central County Regional Occupational Program or the Santa Ana campus of the College. Students must also demonstrate communicative ability in California's primary language as a requirement for vocational, employability, and life-coping skills training. Counseling and support services augment training. Those needing jobs are given contacts and other job-search assistance. Bus passes, child care, books, clothing, uniforms, tools, and equipment are provided free of charge or at a reduced rate. Students complete a high school diploma in a shorter period of time than they might in a traditional high school setting; obtain marketable skills; receive those items necessary for survival in school; and make an easy transition into one of the College's associate of arts or certificate programs if they choose to do so.

STAR serves dropout-prone students ages 17-21 who are referred by the Santa Ana Unified School District.

Contact: Dr. Adrienne Sims, STAR Program, Rancho Santiago College, Centennial Education Center, 2900 W. Edinger Avenue, Santa Ana, CA, 92704.

TECHNICAL ALTERNATIVE HIGH SCHOOL

Students classified as emotionally handicapped receive a half day each of vocationally-related academics and vocational education plus other support services at the Mid-Westchester Center. An Individual Education Plan is developed for each student which reflects curriculum goals in required areas at levels appropriate to the student's aptitude. Offerings include high school diploma and G. E. D. preparation, occupational exploration/assessment, employability training, supervised work experience, and intensive personal and career counseling. Usually, students will graduate with a high school diploma and a certificate of completion in a vocational area. An integral part of each student's program is the "Social Skills Curriculum," consisting of a developmental sequence of information on topics related to personal skills of human adjustment. In addition to this curriculum sequence, there is a counseling I. E. P. which is both an assessment tool and a treatment plan to help identify behaviors thought to be most critical to the student's successful adaptation to school and work. A behavior modification program helps staff identify ineffective student behavior and moves students toward more independent control. Some students receive supervised training through a cooperative education program at a job site in an occupational area where traditional training is either not available or inappropriate.

This program serves students ages 14-21 who are two years below grade level, have low-average to average intelligence, and exhibit moodiness, withdrawal, depression, denial, and low self-concept.

Contact: Dr. Stephen O. Jambor, BOCES Mid-Westchester Center, 65 Grasslands Road, Valhalla, New York 10595.

VOCATIONAL MENTORING PROGRAM

The Vocational Mentoring Program is a collaborative effort involving Grant High School, the Chamber of Commerce (Business Youth Exchange), and Good Samaritan Hospital and Legacy Health Systems in Portland. It is part of a continuum of services for at-risk students that includes a Bridge Program to help eighth graders make a smooth transition to high school and a Partnership project that helps students prepare for entry level jobs. The Vocational Mentoring Program provides students with vocational/technical training and individualized instruction so they can achieve academic success and acquire useful employment abilities. Students spend half a day in special classrooms at Good Samaritan Hospital where they study two academic subjects and earn one credit for a career exploration elective. They return to the high school for the other half-day for the remainder of their required high school program. Academic courses taken at the hospital are taught by certified teachers. The career exploration experience is directed by hospital employees who also coach, train, and assist students in learning basic work skills and abilities in patient care, administration, radiology, nuclear medicine, food and nutrition services, freight and distribution, surgery, laboratories, housekeeping, and the mailroom. Counseling services are also provided by school and hospital staff.

This program serves students ages 14-21 who are one to four years behind grade level, lack academic success in previous years, have a history of discipline referrals, are from "dysfunctional" families, and have been referred because of attendance, motivation, or interpersonal problems.

Contact: Kelvin Webster, Grant High School, 2245 NE 36th Avenue, Portland, OR 97212.

4 Summary and Recommendations

SUMMARY

From all indications, it is clear that the world of work and the nature of our future work force have undergone and will continue to undergo unprecedented changes as we move into the 21st century. The transition from an industrial to a high-tech, service economy in the United States; the struggle for this country to remain a strong player in an increasingly competitive world market; the unique needs of a more diverse, shrinking pool of workers; the shifting makeup of families and their roles within the broader context of society in ferment; and the greater prominence of the federal government in education policy-making will place tremendous pressures upon the public school system to modify and adapt its structures and operations in the near future.

Vocational Education for the 21st Century describes one response to these pressures. It is a bold educational innovation that sets forth the framework for an enhanced vocational education program. It is based on findings, observations, and experiences from a three-year, ten-project, federally-funded experiment.

This is a new breed of vocational education. It is more visionary, relying on the past, but deriving its direction and energy from the future. It is more proactive, seeking to recruit an extremely diverse population of students and prepare them for a lifetime of learning and work. It is more dynamic, creating and recreating its form and structure from the identified needs of individual students and the demands of a constantly changing society. It is more comprehensive, offering an expanded curriculum designed to educate the whole person and providing an educational support system that includes human and material resources from the entire community.

The curriculum of an enhanced vocational education program is based on the belief that all students—especially those who have dropped out, are at risk of dropping out, or who stay in school but graduate with inadequate skills and knowledge—need to be competent learners, productive workers, effective citizens, and happy individuals. Therefore, students are provided with an array of experiences and activities designed to integrate academics, vocational education, employability skills, and life-coping techniques in real-life situations. To ensure that students come into and remain in contact with this curriculum for a sufficient period of time, a strong educational support system is necessary. This support system is predicated on the belief that a caring, competent staff who hold high expectations, use a variety of instructional and counseling techniques within a nonthreatening, flexible setting, can meet the academic, vocational, and personal needs of a widely diverse population of students.

RECOMMENDATIONS

The following recommendations are offered as guidelines for school boards and administrators once they decide to implement an enhanced vocational education program in their districts.

- **Do a thorough needs assessment of the total district.** Information should be collected to identify students who would benefit from the program and to determine the adequacy of facilities and equipment, the availability of qualified personnel, the existence of necessary partnerships with businesses, community agencies, and parents, the breadth of the curriculum now in operation, and the extent of the current support and management structure.

- **Design a comprehensive program.** The curriculum should include the four components described in this document—academics, vocational education, employability skills training, and life-coping skills. The educational support system should include the full range of instructional, counseling, and student management approaches; parent and community involvement; flexible scheduling and class size; staff selection and development; and special student services such as summer school and transportation.

- **Design a program that serves the total diverse student population in the district.** While the program should be appropriate for any student in the school district, special consideration must be given to those with language deficiencies, learning disabilities, emotional handicaps, substance abuse problems, low motivation and self-esteem, low academic achievement, and other factors that make them different from the "typical" student in the mainstream of school.

- **Build in program evaluation from the beginning.** Sometimes educators put a program in place with the assumption that it will work, then when things go awry, they do not change or eliminate it for fear of looking foolish. This pitfall can be avoided if educators take an experimental attitude when implementing programs and establish an ongoing system of evaluation from the start. Such an approach allows them to change and modify the program when it is warranted by evidence without fear of embarrassment. Educators cannot go wrong if they remember this maxim: the program's content should be based on student and community needs and its direction dictated by student outcomes.

- **Publish a strong statement of commitment to provide the resources necessary to develop and maintain the program.** District policymakers and administrators must demonstrate to district staff and the community that they are dedicated to innovation and quality in education.

- **Establish policy that is sufficiently flexible to allow the program to operate autonomously and effectively.** While district leaders should set high standards and expect quality outcomes, day-to-day operations of the program must be left in the hands of local school staff.

- **Provide adequate time for planning and implementation of the program.** A minimum of at least one year of planning, preferably two, is needed to increase chances of success. Many programs fail because of poor planning and inadequate staff training.

- **Organize a committee to oversee the planning and implementation of the program.** Members should include representatives from the school board, administrators, teachers, counselors, business leaders, community leaders, human service agency personnel, parents, students, college faculty, and state department staff. Provide committee members with adequate background information and research on the program and use their talents to get the program under way.

- **Conduct adequate awareness and publicity activities.** Inform school staff, parents, students, and the community about the program and emphasize the value of vocational education to diverse student populations. Support for a program often is a function of how much people know about the program; lack of knowledge often means lack of support.

- **Select qualified staff and train them well.** Only the most highly-qualified and emotionally-stable staff should be assigned to work in programs for at-risk students. However, the best staff will need adequate and continued training, professional development, and personal support to operate an enhanced vocational education program. This will involve release time and/or extra pay for staff for cross-discipline curriculum and instructional integration, materials development and modification, student assessment and monitoring, and program revision. Staff cannot be expected to implement and operate a new program while tending to full-time duties in an old program.

- **Use participatory management.** Develop a system for sharing information about the program and making decisions with input from all involved parties. Program rules, regulations, guidelines, and procedures should be set in clay and not in cement. Change should be easily and quickly achieved when the need arises. This includes day-by-day interactions between students and staff concerning curriculum and methods as well as management and operation of the program.

- **Implement those program components that are already well-developed first, and develop incomplete or missing components later.** This should make it easier on the staff, increase the probability of success, and encourage continued support. However, components that are vital for success with at-risk and disadvantaged students (such as counseling, individual instruction, vocational training), should be put in place early regardless of difficulty of implementation.

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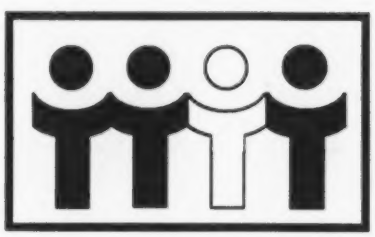
About the Author

Dr. John V. "Dick" Hamby retired from Clemson University in June 1991 to form EduCare, an education consulting business in Kingstree, South Carolina. Before retirement, he spent 18 years at Clemson University–thirteen as a professor in the College of Education and the last five as Assistant Director of the National Dropout Prevention Center, which he helped organize in 1986.

During his tenure at the National Dropout Prevention Center, he developed a great interest in vocational education and its role in meeting the needs of diverse student populations. He served for two years as project director for the Lifelong Options Program, a million dollar federal grant to integrate dropout prevention in vocational education in demonstration sites in three southern states. Also, he was a charter member of the coordinating board for Partnership for Academic and Career Education, the nation's number one Tech-Prep program in 1991.

Dr. Hamby is a nationally-recognized consultant and writer on dropout prevention. He is a charter member of the Board of Directors of the National Dropout Prevention Network and has served on numerous other committees involved in dropout prevention.

His public school experience includes teaching in high school and serving as an elementary school principal. He holds a Ph.D. in psychological foundations of education from the University of Florida, received an M.Ed. in public school administration from Furman University and a B.A. in English from Presbyterian College.



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